DOCKETED	
Docket Number:	20-SPPE-03
Project Title:	Gilroy Backup Generating Facility
TN #:	236004
Document Title:	Gilroy BGF SPPE Application
Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
Submitter Role:	Applicant Representative
Submission Date:	12/17/2020 4:38:12 PM
Docketed Date:	12/17/2020

Gilroy Backup Generating Facility

Small Power Plant Exemption Application

Submitted by:

Amazon Data Services, Inc.

DECEMBER 2020

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SECTION 1.0 INTRODUCTION AND PURPOSE

Amazon Data Services, Inc. (ADS) 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 96 MW[1] Gilroy Backup Generating Facility (GBGF). The GBGF will consist of a total of fifty (50) 2.5-MW diesel fired generators that will be used exclusively to provide up to 96 MW of backup generation to support the Gilroy Data Center (GDC), to be located within the City of Gilroy, Santa Clara County, California. The GBGF will include three smaller emergency generators; two house power diesel fired generators, each capable of generating 600 kW to support its respective building phase in an emergency; and a 175 kW diesel fired emergency generator, to support a security building.

Unlike the typical electrical generating facility reviewed by the Commission, the GBGF is designed to operate only when electricity from Pacific Gas & Electric (PG&E) is unavailable to the GDC. The GBGF will not be electrically interconnected to the electrical transmission grid. Rather, it will consist of one generation yard for each data center building electrically interconnected solely to the GDC.

Section 2.0 of the SPPE Application provides project information such as the project title, lead agency contact, project applicant, project location, assessor's parcel number, and general plan and zoning designations.

Section 3.0 of the SPPE Application provides a detailed description of the construction and proposed operation of the GBGF. To describe the context of the GBGF and its role in serving the GDC, Section 3.0 also includes a general description of the GDC.

Section 4.0 of the SPPE Application includes environmental information and analyses in sufficient detail to allow the Commission to conduct an Initial Study consistent with Section 16063(d) of the California Environmental Quality Act (CEQA) Guidelines.

Section 5.0 of the SPPE Application includes a discussion of Alternative backup generation configurations and technology considered by ADS.

Section 6.0 of the SPPE Application includes a list of references.

Section 7.0 of the SPPE Application contains a list of applicable agencies and contact information who have jurisdiction over laws, ordinances, regulations, and standards (LORS) that may be applicable to the GBGF as required by Subsection (i) of Appendix F of the CEC SPPE Regulations.

Section 8.0 of the SPPE Application contains a list of addresses of properties within 1,000 feet of the site for noticing purposes.

[1] Maximum electrical demand of the Gilroy Data Center.

1.1 NEED FOR BACKUP GENERATION

The primary goal of the GDC, as its name implies, to be a state-of-the-art data center that provides greater than 99.999 percent reliability (fine nines of reliability). The GDC has been designed to reliably meet the increased demand of digital economy, its customers and the continued growth. The GDC will house key cloud infrastructure that is integral to the economy. To ensure a reliable supply of high-quality power, the GBGF was designed to provide backup electricity to the GDC only in the event electricity cannot be supplied from PG&E and delivered to the GDC buildings. To ensure no interruption of electricity service to the servers housed in the GDC 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 GBGF provides that backup power generation source.

The GDC'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;
- Develop a Data Center that can be constructed in phases which can be timed to match projected growth;
- To incorporate the most reliable and flexible form of backup electric generating technology 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 GBGF must provide a higher reliability than 99.999 percent in order for the GDC to achieve an overall reliability of equal to or greater than 99.999 percent reliability.
        - The selected backup electric generation technology mush 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.
    - **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.

1.2 COMMISSION SPPE JURISDICTION

ADS 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.[2] For thermal power plants with generating capacities

[2] Public Resources Code (PRC) Section 25500.

greater than 50 MW but less than 100 MW, the Commission can grant an exemption from its licensing authority[3]. The GBGF 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.[4]

1.3 DATA CENTER FACILITIES NOT WITHIN SCOPE OF SPPE

The GDC is not within the scope of the Commission's jurisdiction because it is not a power plant. ADS submitted an application for a Master Plan to construct and operate the GDC to the Gilroy (City) for review in September 2020. The City has begun its review.

ADS believes that although the CEC is the lead agency for making a determination of whether the GBGF is a thermal power plant that can qualify for a SPPE, the ultimate decision does not extend to the GDC facilities. ADS does acknowledge that the CEC should include the potential effects of the GDC in its CEQA analysis, but the ultimate determination of whether the GDC should be approved, denied, or subject to mitigation measures is solely within the City's jurisdiction. To assist the CEC in preparing its (IS/MND) ADS provides a description of the GDC in Section 3.0. The potential effects of the GDC are considered in environmental analyses of Section 4.0 in a manner to assist the Commission in evaluating combined impacts from the co-location of the GBGF and the GDC.

To enable the City to timely conduct its review of the modified GDC, ADS requests the Commission complete its review of the GBGF by April 2021 within its statutory 135-day obligation.

[3] PRC Section 25541 and Title 20 California Code of Regulations (CCR) Section 1934.
[4] The Commission Staff has determined that notwithstanding these facts, the Commission has jurisdiction over the GBGF. ADS reserves all its rights regarding whether or not the Commission has jurisdiction over the GBGF and the filing of this SPPE Application is not an admission by ADS that the Commission has exclusive jurisdiction over the GBGF or the GDC.

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

Gilroy Backup Generating Facility and Gilroy Data Center

2.2 LEAD AGENCY CONTACT

Leonidas (Lon) Payne
Project Manager
Siting, Transmission and Environmental Protection (STEP) Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814
Phone: 916-651-0966
E-mail: Leonidas.Payne@energy.ca.gov

2.3 PROJECT APPLICANT

Amazon Data Services
410 Terry Avenue North
Seattle, WA 98109

2.4 PROJECT LOCATION

The GDC site is an undeveloped parcel generally located east of Arroyo Circle and between the two segments of Camino Arroyo within the City of Gilroy.

2.5 ASSESSOR'S PARCEL NUMBER

841-69-039

2.6 GENERAL PLAN DESIGNATION AND ZONING DISTRICT

General Plan Designation:	General Industrial
Zoning District:	M2 - General Industrial

SECTION 3.0 PROJECT DESCRIPTION

3.1 OVERVIEW OF PROPOSED GENERATING FACILITIES

The GBGF will be a backup generating facility with a generation capacity of up to 96 MW to support the need for the GDC to provide uninterruptible power supply for its servers. The GBGF will consist of 50, 2.5 MW diesel-fired emergency backup generators, arranged in two generation yards, each designed to serve one of the two data center buildings that make up the GDC. Project elements will also include switchgear and distribution cabling to interconnect the two generation yards to their respective buildings. In addition, the GBGF will include three smaller emergency generators; two house power diesel fired generators, each capable of generating 600 kW to support its respective building phase in an emergency; and a 175 kW diesel fired emergency generator to support a security building.

3.2 GENERATING FACILITY DESCRIPTION, CONSTRUCTION AND OPERATION

3.2.1 Site Description

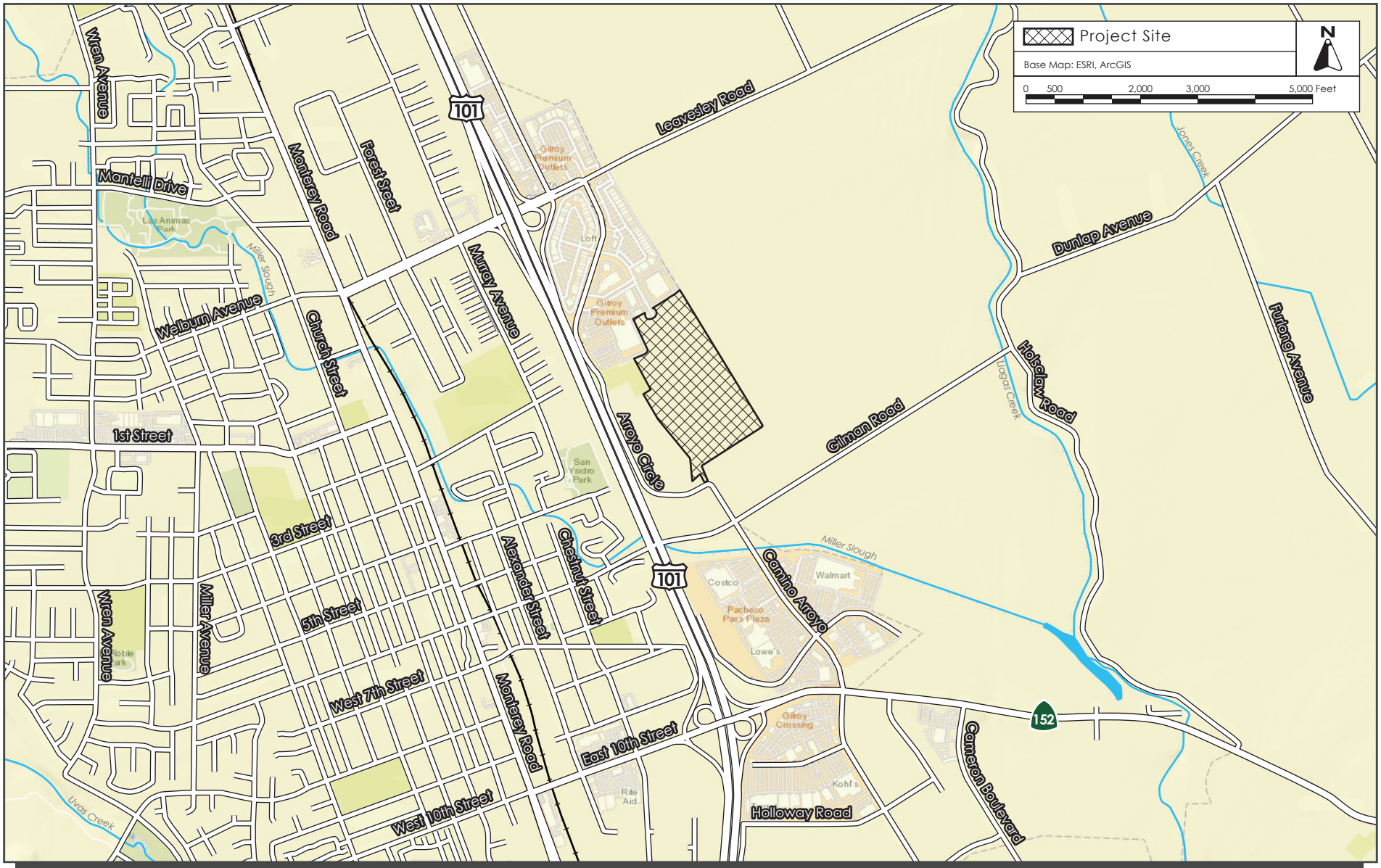
The GDC site is an undeveloped parcel generally located at located east of Arroyo Circle and between the two segments of Camino Arroyo within the City of Gilroy (APN 841-69-039). The parcel is approximately 56 acres in size and up until recently was in active agricultural production but is now proposed for industrial development, consistent with the General Industrial zoning and General Plan designations on the site. The site is bounded by active agricultural lands to the east, active agricultural land and existing urban development to the south, existing urban development and Arroyo Circle to the west and existing urban development to the north. The majority of the surrounding development is zoned and designated as General Industrial with the exception of one parcel which is identified as Shopping Center Commercial. The subject parcel has access to the Camino Arroyo cul-de-sac to the north and Camino Arroyo/Arroyo Circle knuckle to the south.

The site is near the Highway 101 corridor and immediately adjacent to industrial and commercial development. The topography is flat with views of western and eastern foothills from public viewpoints (refer to Figures 3.2-1, 3.2-2, and 3.2-3).

3.2.2 General Site Arrangement and Layout

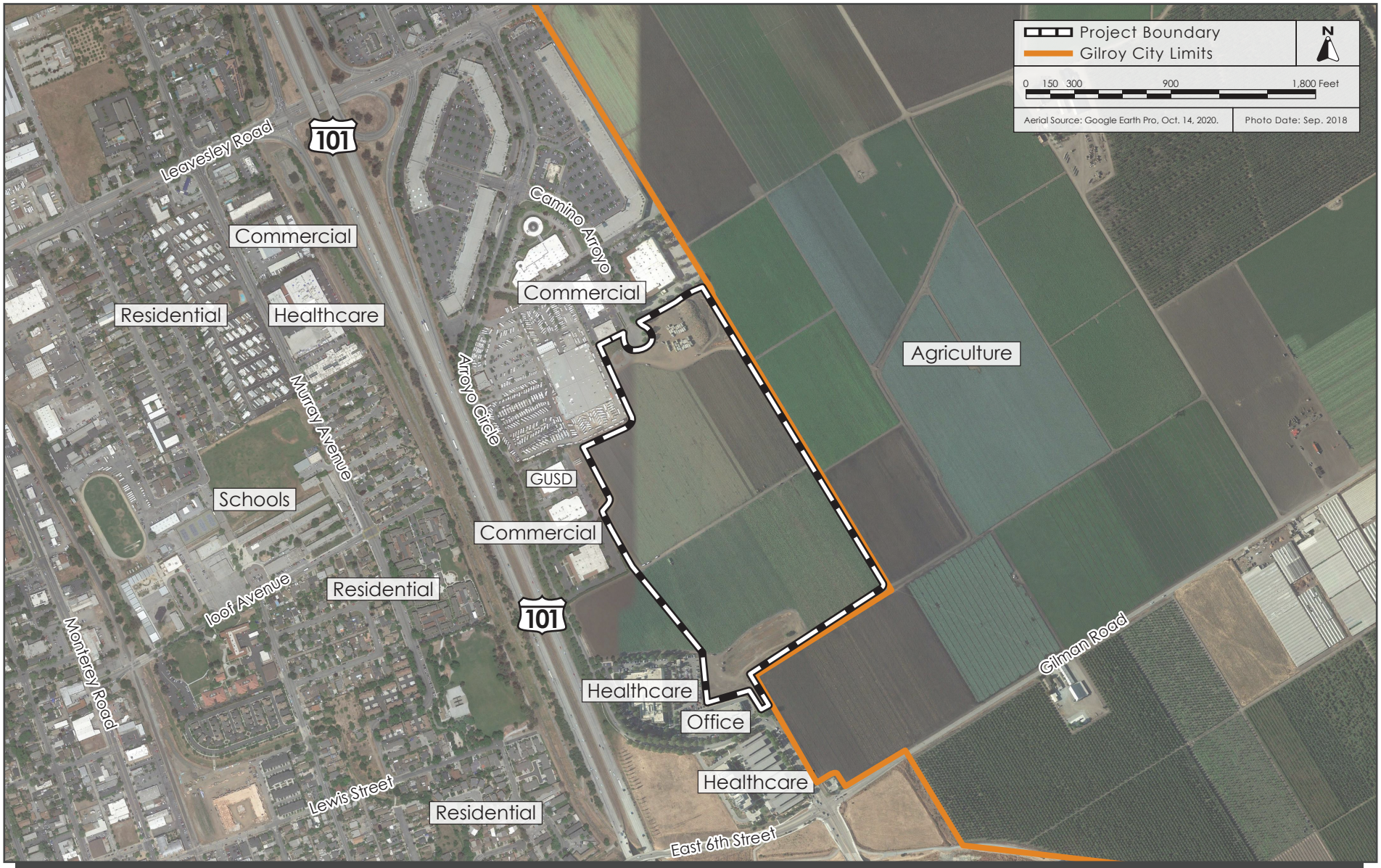
The emergency backup generators will be located at the site in generation yards at two separate locations within the GDC. Each generation yard will be adjacent to the building it serves. Figure 3.2-4 shows the general arrangement and site layout of the GBGF within the GDC site. Twenty-six (26) of the emergency backup generators will be dedicated to support the GDC western building, which is designated as Phase I (2 generators are redundant). Twenty-four (24) of the backup generators will be dedicated to support the GDC eastern building, which is designated as Phase II (2 generators are redundant). Additionally, each generator yard will also include one house power generator as shown on Figure 3.2-4. And lastly, there will be a site security building emergency generator, with a peak generating capacity of approximately 175 kW. The site security building emergency generator will be located adjacent to the site security building as shown on Figure 3.2-4.

REGIONAL MAP | FIGURE 3.2-1

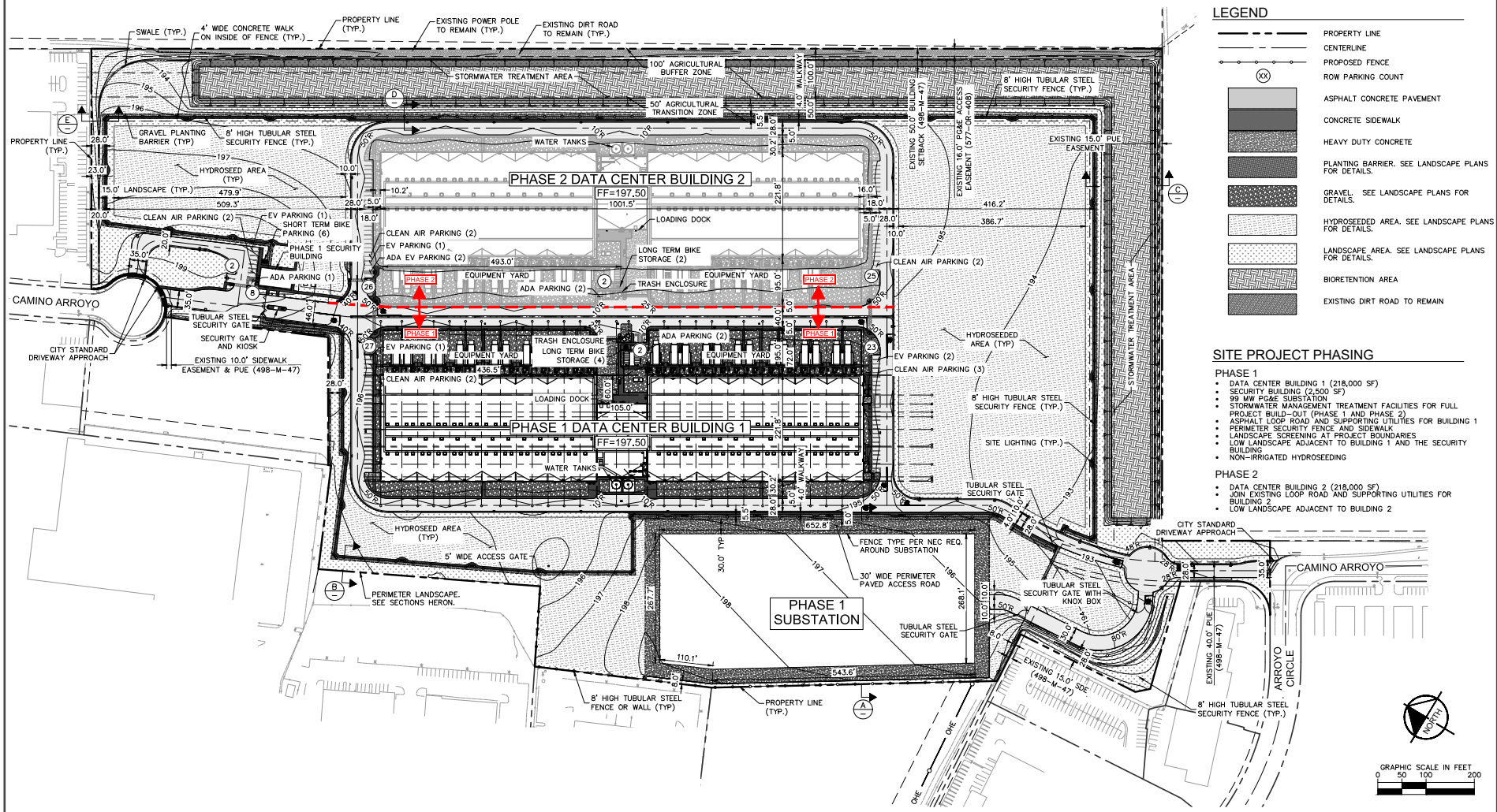


VICINITY MAP

FIGURE 3.2-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 3.2-3



SITE PLAN

FIGURE 3.2-4

As shown in Figure 3.2-4, the larger lineup generators are aligned in the building service yards in the generator yard that services each respective building. Each generator is provided with a belly fuel tank with a storage capacity of 5,000 gallons. Each of the two house power generators will be located within the generation yard supporting its respective building and will have a belly fuel tank with a storage capacity of 1,000 gallons. The security building generator will be located as shown on Figure 3.2-4 and will also have a belly fuel tank with a storage capacity of 1,000 gallons.

Each generation yard will be electrically interconnected exclusively to the building it serves through an above ground cable bus to a location within the building that houses electrical distribution equipment. The house generator and security building emergency generators will connect to their respective buildings via underground conduit ductbank.

3.2.3 Generating Capacity

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

1. The GBGF uses internal combustion engines and not turbines.
2. The GBGF is controlled exclusively by the GDC through software technology and electronic devices.
3. The GBGF has been designed to deliver up to 96 MW during an emergency on the hottest design day; 50 MW for Phase I and 46 MW for Phase II.
4. Each Phase includes two completely redundant generators.
5. The GBGF will include a total of two, 600 kW house and life safety emergency generators; each serving its respective building. Additionally, a single 175 kW emergency generator will serve the security building.
6. The GBGF will only be operated for maintenance, testing and during emergency utility power outages.
7. The GBGF will only operate at a load equal to the demand by the GDC during an emergency utility outage.
8. The GBGF is not interconnected to the transmission grid.

Based on the methodology adopted by the Commission's most recent Final Decisions Granting SPPEs[5] , the maximum generating capacity of the GBGF is determined by the maximum of capacity of the load being served. The maximum capacity of the load being served is the maximum demand of the GDC at total Critical IT on its design day. In addition to using the maximum data center demand, the following information is provided to describe the unique features of a backup generating facility such as the GBGF.

[5] McLaren Backup Generating Facility (17-SPPE-01), CEC-800-2018-003-CMF; Laurelwood Data Center (19-SPPE-01) CEC-800-2020-001-CMF; Walsh Backup Generating Facility (19-SPPE-02), CEC-800-2020-002-CTF; and Mission College Backup Generating Facility (19-SPPE-05), CEC-800-2020-003-CTF.

3.2.3.1 *Data Center Load Demand*

The preferred and most accurate way to calculate the generating capacity of the GBGF is to recognize that the load of the backup generators is completely dictated by the demand of the data center. Using this methodology reflects the most accurate way of describing the relationship between the GBGF and the GDC and describes the actual physical constraint to the generating capacity. In other words, the GDC employs physical electronic devices and software technology (Automatic Throw-over main breakers, Building Load Management System) that limits the output of the GBGF.

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

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

It is also important to note that the design demand of the GDC, which the GBGF has been designed to reliably supply with redundant components during an emergency, is based on the maximum critical IT load occurring during the hottest ASHRAE design day temperature for this facility. Such conditions are possible but extremely unlikely to ever occur. As described in more detail below, the GDC load for both Phases on that worst case day is 96 MW, below the SPPE jurisdictional threshold.

GDC Phase I Building will have 2 large data hall server rooms designed to provide 21.53 MW of Critical IT each, for a total Critical IT load of 43.06 MW. The total Non-IT building load for Phase I for the hottest design day is 6.76 MW, plus 0.3 MW for the site security building and pump station, which will be installed as part of Phase I construction. Therefore, the maximum GDC Phase I building load is 43.06 MW Critical IT + 7.06 MW of Total Non-IT Building Load, or 50.13 MW.

The GDC Phase II Building is identical to the Phase I Building, with the exception of one of the two large data hall server rooms being smaller to accommodate warehouse and other uses. The Phase II building is designed to provide a total Critical IT load of 39.55 MW. The total Non-IT building load for Phase II for the hottest design day is 6.15 MW. Therefore the maximum GDC Phase II building load is 39.55 MW Critical IT + 6.15 MW of Total Non-IT building load, or 45.71 MW.

Therefore the maximum electrical demand of the GDC at full buildout of both phases would be 50.13 MW (Phase I) + 45.71 MW (Phase II) = 95.84 MW, hereinafter rounded to approximately 96 MW.

It is important to note that the average ambient temperature conditions for a data center in the Gilroy area are much lower than the hottest design day. The average total Non-IT building load is expected to be approximately 5.21 MW for Phase I and 4.48 MW for Phase II, for an average GDC electrical demand of the GDC at full buildout of both phases of 85.5 MW.

The data center industry utilizes a factor called as the Power Utilization Efficiency Factor (PUE) to estimate the efficiency of its data centers. The PUE is calculated by dividing the total demand of the data center by the Critical IT load. For the worst case day the peak PUE for the GDC at full buildout of both buildings would be 1.16 (Total 95.84 MW total electrical demand on Worst Case Day divided by 82.62 MW Total Critical IT Load). The average PUE for the GDC at full buildout of both buildings would be 1.18 (Total 85.5 MW demand of Building average conditions divided by 72.29 MW Expected Critical IT Load).

3.2.3.2 *Regulatory Capacity Restriction*

The Commission should also consider that ADS is currently in negotiations with PG&E to supply electricity to the GDC. PG&E has committed to provide a will-serve letter that confirms its commitment to provide up to 98 MW of electrical power to the GDC, which will be provided under separate cover when received. ADS requested PG&E to deliver up to 15 MW of power to launch the site. Once the substation energizes the 15 MW, service will be abandoned and the site will take power from the PG&E substation. The Substation Agreement with PG&E will contractually cap the amount of electricity delivered to the GDC to less than 98MW to reflect the current data center and substation design. Notwithstanding the building design's maximum electrical demand, the Commission could also rely on the will serve letter that PG&E will not deliver more than 98 MW to the site. If PG&E limits the delivery of less than 98 MW to the site the GBGF, which would replace that electricity during an emergency when PG&E is unable to deliver, would never produce electricity in excess of 98 MW.

3.2.4 Backup Electrical System Design

3.2.4.1 *Overview*

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

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

Each electrical system will consist of an Uninterruptible Power Supply (UPS) system that will be supported by batteries and a means for automatic switching between UPS and normal power. The

UPS system that will be deployed at the GDC to provide backup to the IT loads will consist of two power shelves within each individual rack. Each rack power shelf will consist of 6 N+1 3kW automatic transfer switching power supply units (ATSPSUs) and lithium ion battery backup units (BBUs). The BBUs are designed to deliver 15kW of power.

The UPS systems provided for all non-IT loads will consist of a 100kW rated UPS system provided with the house power service for emergency backup to the fire suppression system and electrical and mechanical controls in office spaces, and 20kW rated UPS systems provided with each electrical lineup for emergency backup to the electrical and mechanical controls for IT, electrical, and mechanical rooms. For each 600kW house power generators, one of these 100kW UPS systems is provided. A similar 20kW rated UPS system will be deployed for the Site Security building.

3.2.4.2 *UPS System and Batteries*

The UPS System and Batteries are part of the GDC and are not part of the GBGF. The load will be automatically transferred to the bypass line without interruption in the event of an internal UPS malfunction. The UPS will operate in the following modes:

- **Normal Conditions (Double Conversion, IGBT):** Load is supplied with power flowing from the normal power input terminals, through the rectifier-charger and inverter, with the battery connected in parallel with the rectifier-charger output.

- **Normal Conditions (Delta conversion):** The output inverter and input (Delta) converter shall operate in an on-line manner to continuously regulate power to the critical load. The input power converter and output inverter shall be capable of full battery recharge while simultaneously providing regulated power to the load for all line and load conditions within the range of the UPS specifications.

- **Abnormal Supply Conditions:** If normal supply deviates from specified and adjustable voltage, voltage waveform, or frequency limits, the battery supplies energy to maintain constant, regulated inverter power output to the load without switching or disturbance.

- **Power Failure:** If normal power fails, energy supplied by the battery through the inverter continues supply-regulated power to the load without switching or disturbance.

When power is restored at the normal supply terminals of the system, controls shall automatically synchronize the inverter with the external source before transferring the load. The rectifier-charger shall supply power to the load through the inverter and simultaneously recharge the battery.
If the battery becomes discharged and normal supply is available, the rectifier-charger shall charge the battery. The rectifier-charger shall automatically shift to float-charge mode on reaching full charge.

If any element of the UPS system fails and power is available at the normal supply terminals of the system, the static bypass transfer switch shall switch the load to the normal ac supply circuit without disturbance or interruption.

Should overloads persist past the time limitations, the automatic static transfer switch shall switch the load to the bypass output of the UPS. When the fault has cleared, the static bypass transfer switch shall return the load to the UPS system.

If the battery is disconnected, the UPS shall supply power to the load from the normal supply with no degradation of its regulation of voltage and frequency of the output bus.

3.2.4.3 *Batteries*

Similarly, the batteries are not part of the GBGF and are described here for informational purposes only. The batteries will be lithium-ion and supplied by LG, Samsung, or Toshiba. The batteries are provided in a one string configuration within a cabinet with each UPS. Batteries will have a minimum design life of approximately 12 years in float applications at 64.4-82.4 degrees F. Lithium ion batteries report cell properties to the UPS, which is monitored by EPMS for statuses and alarming.

The batteries will be configured in banks with matching standalone batteries with the following characteristics:

a. Each battery bank will provide a minimum of 12 minutes of backup at 100% full load UPS current, @ 64-82 deg F, 3 end volts per cell, beginning of life.

b. Internal cabinet temperature sensor to be wired back to the UPS module.

c. Battery type is Lithium Manganese Oxide / Nickel Manganese Cobalt Oxide mix (LMO/NMC)

3.2.5 Electrical Generation Equipment

Each of the larger 50 lineup generators will be a Tier-2 standby diesel fired generator equipped with Rypos HDPF/C diesel particulate filters (DPF). The generators will be 3,634 bhp, Caterpillar Model D3516C. The maximum peak generating capacity of each model is 2.5 MW with a steady state continuous generating capacity of 1.75 MW.

Each of the two life safety generators will be a 900 bhp, Caterpillar Model C-18, Tier-2 emergency diesel-fired generator equipped with a Rypos HDPF/C DPF. The maximum peak generating capacity of this model is 600kW with a continuous generating capacity of 420kW.

The security building generator will be a 280 bhp, Caterpillar model C7.1, Tier-3 emergency diesel-fired generator. The maximum peak generating capacity of this model is 175.

Specification sheets for each manufacturer and evidence of the steady state continuous ratings are provided in Appendix C.

Each individual generator will be provided with its own package system. Within that package, the prime mover and alternator will be made ready for the call for immediate power. Each lineup generator is provided with a belly fuel tank with a storage capacity of 5,000 gallons. Each of the two

house power generators will be located within the generation yard supporting its respective building and will have a belly fuel tank with a storage capacity of 1,000 gallons. The security building emergency generator will have a belly fuel tank with a storage capacity of 1,000 gallons.

See Figure 3.2-4 for Phase I and Phase II Configuration.

The CAT 3516C generators and enclosures are approximately 11 feet 10 inches wide, 44 feet 8 inches long and 13 feet 6 inches high. Each generator will have a stack height of approximately 31 feet. The stacks will exhaust vertically and will not have rain caps. When placed on concrete equipment pads, the generators will be spaced approximately 10 feet apart in pairs of two horizontally, while pairs are further separated by approximately 27 feet.

The CAT C18 house power generators and enclosures are approximately 18 feet 10 inches long, 6 feet 7 inches wide, and 9 feet 6 inches tall and will have a stack height of approximately 41 feet.

The CAT C7.1 security building generator enclosure will be approximately 3 feet 7 inches wide, 13 feet 3 inches long, and 8 feet 2 inches tall and will have a stack height of approximately 8 feet 2 inches.

Each generator yard will be located adjacent to the GDC building it serves. The generator yards will be enclosed with 8 feet high chain link fencing to separate them from the balance of the property.

Each of the 2.5MW generators for each phase will be connected to an individual lineup consisting of a Main Switch Board, where two of the generators/lineups are redundant. Each non-redundant lineup feeds a maximum of 1808 kW of critical IT load. All 26 generators and lineups for phase I and all 24 generator and lineups for Phase II are interconnected at the Main Switch Board level for each building, therefore should any one lineup fail, either of the two redundant lineups will have enough capacity to completely pick up the dropped load. During a utility outage, all non-redundant generators will start and be connected to their dedicated loads. If no more than 2 of the generator systems fail during the utility outage, the total maximum load of approximately 96 MW will supported by the generators, and will only be running at about 80% of the full capacity of the generator.

3.2.6 Major Electrical Equipment and Systems

There will be an internal switchboard to the generator enclosure with a load disconnect breaker that is normally closed while the generator is both in and out of operation. From that load disconnect, 600V rated cable bus, rated for the full ampacity output rating of the generator, will traverse from the generator into the data center facility terminating on a dedicated main generator input breaker in the main switchgear. This breaker is an electrically operated breaker that is normally open when the generator is not in operation, and the main switchboard has not requested generator power. This generator main breaker is electrically interlocked with an adjacent utility transformer main breaker, such that the generator main breaker can never close unless the utility transformer main breaker is in the open state. The generator main breaker will only close based upon a generator start signal from a Programmable Logic Controller (PLC) control logic that indicates that the utility transformer main breaker's source power is unavailable, as well as the generator has started, and is producing 480VAC power, and the utility transformer main breaker is in the open state. Once the generator main breaker

is closed, the power created from the individual generator is then transmitted to the dedicated load of the system. This load is the exact same load that the dedicated utility transformer was supplying power to prior to the utility interruption. Power from this individual generator cannot be transferred to any other load or system or anywhere outside the GDC.

3.2.7 Fuel System

The backup generators will use ultra-low sulfur diesel as fuel (< 15 parts per million sulfur by weight). Each generator package will include an integrated fuel tank with a capacity of 5,000 gallons, or 1,000 gallons for the 600kW house power and the 175 kW security generators, which is sufficient for operating at steady state continuous load for at least 24 hours.

3.2.8 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 GBGF.

3.2.9 Water Supply and Use

The GBGF will not require any consumption of water.

3.2.10 Waste Management

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

3.2.11 Hazardous Materials Management

The GBGF 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 doublewalls. The interstitial space between the walls of each tanks is continuously monitored electronically for the existence of liquids. This monitoring system is electronically linked to an audible and visual alarm system that alerts personnel if a leak is detected. Additionally, the standby generator units and integrated tank 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. The tanker truck parks at the gated entrances to the generator yard for re-fueling.

There are no loading/unloading racks or containment for re-fueling events; however, a spill catch basin is located at each fill port for the generators. To prevent a release from entering the storm drain system, drains will be blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices will be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events.

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

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

3.2.12 GBGF Project Construction

Construction of the GBGF will take place in two phases. Each phase represents a generation yard which will be constructed to serve each of the two GDC Buildings. Since the site preparation activities for the GDC will include the ground preparation and grading of the entire GDC site, the only construction activities associated with the GBGF would involve construction within each generation yard. This will include construction of concrete slabs, fencing, above ground cable bus to install the electrical cabling to interconnect to the GDC Building switchgear, construction of the racking system to support the second level of generators, 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 its respective generation yard by a crane.

Construction of each generation yard and placement of the generators is expected to take six months and will be within the overall construction schedule identified in Section 3.3.2.3. Construction personnel are estimated to range from 10 to 15 workers per generation yard including one crane operator and this estimate is included in the estimate provided in Section 3.3.2.3.

3.2.13 GBGF 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). However, it is ADS's experience that maintenance and testing of each engine rarely exceeds 12 hours annually. In addition, ADS proposes to limit operation to one engine at a time for routine testing activities, which will be conducted in accordance with manufacturer's recommendations. Please see Section 4.3 Air Quality and Appendix C for a complete description of the testing and maintenance frequencies and loading proposed for the GBGF and Section 3.4 which includes operational proposed design measures to ensure air quality related impacts are reduced to less than significant levels.

3.3 GILROY DATA CENTER FACILITIES DESCRIPTION

3.3.1 Overview

As described in Section 1.2 and 1.3 of this application, the GDC is not part of the Commission's overall SPPE jurisdiction. However, we are providing the following complete description of the GDC in order for the CEC to provide a complete CEQA environmental document sufficient for the City of Gilroy to use for issuance of the land use authorizations and building permits for the GDC and the GBGF.

3.3.2 Complete Description of the GDC

The parcel is approximately 56 acres in size and is currently in active agricultural production. The site is bounded by active agricultural lands to the east, active agricultural land and existing urban development to the south, existing urban development and Arroyo Circle to the west and existing urban development to the north. Majority of the surrounding development is identified as general industrial with the exception of one parcel which is identified as shopping center commercial. The subject parcel has access to the Camino Arroyo cul-de-sac to the north and Camino Arroyo/Arroyo Circle knuckle to the south.

The subject project proposes to construct two data storage center buildings and on campus security building totaling approximately 438,500 square feet. Phase 1 will include a single-story data storage center building of approximately 218,000 square feet, including approximately 10,000 square feet of administrative office employee amenity space. Additionally as part of the construction of Phase I the approximately 2,500 square feet security building will be erected. Phase I is intended to be in operation by 2023. Phase 2, if constructed, is anticipated to be constructed within 4 to 7 years of Phase 1, and will be a similar single-story data storage center building of approximately 218,000 square feet, including approximately 10,000 square feet of administrative office employee amenity space, and approximately 15,000 square feet of warehouse space. Both structures would have building pad elevations raised at or above the 0.2% annual chance flood elevation, otherwise known as the 500-year floodplain elevation.

The proposed data storage center buildings will house computer servers for private clients in a secure and controlled structure and will be designed to demand a total of approximately 96 megawatts (MW) of electricity. The structures will be architecturally treated to fit the surrounding context of the site. Mechanical equipment for buildings cooling will be housed inside the building along with exhaust baffles for exiting hot-air. Electrical and backup battery equipment rooms will be housed inside the building. The project will be served by a new utility substation delivering less than 98 MW. Backup generators capable of generating up to 96 MW will be located in an exterior equipment yard. The project will also include an onsite switchyard and substation to accommodate electricity to be delivered to the site by PG&E. There will be 2 water storage tanks approximately 36 feet high, with storage capacities of 60,000 gallons each, to store water for evaporative cooling.

The remainder of the site will be developed with a combination of parking, drive aisles, security guard shacks, stormwater treatment facilities, fencing and landscaping. Drive aisles will be located around the perimeter of the structures providing for looped circulation which will take access from the Camino Arroyo cul-de-sac at the north end of the project site. An emergency vehicle access route will be provided to the Camino Arroyo/Arroyo Circle knuckle to the south. The entire perimeter of the site will be enclosed with an 8-foot high security fence and access restricted to site employees and permitted visitors. A 100-foot agricultural buffer zone and 50-foot agricultural transition area will be provided along a portion of the southern boundary and the eastern boundary which abuts active agricultural lands. Stormwater treatment facilities will be located within this 150-foot buffer.

Appendix A contains a complete set of design drawings submitted to the City of Gilroy for review.

3.3.2.1 *Building Heights and Setbacks*

The data center buildings would be approximately 35 feet at the roof's high point with parapets extending to a height of 45 feet at the high point. The parapet walls extend to the height ten feet above the roof level to conceal the rooftop exhaust fans, other related mechanical and electrical equipment, and the roof access stair. The Phase 1 building will be built on the western portion of the site and will be set back approximately 100 feet from the northern property line at an adjacent lot on the western half of the lot, approximately 618 feet from the southern property line, and varying depths between 184 feet and 412 feet from the western property line with the adjacent development. The Phase II Building will be located in the eastern portion of the site and will be set back approximately 590 feet from the northern property line abutting an adjacent lot on the eastern side of the lot, approximately 618 feet from the southern property line, and approximately 215 feet from the eastern property line adjacent to agricultural land.

3.3.2.2 *Site Access and Parking*

Primary access to the site would be provided by two new proposed driveways, each approximately 35 feet in width, at the Camino Arroyo cul-de-sac on the northern side of the site. A third driveway entrance for emergency access would be constructed at Arroyo Circle on the southern portion of the site and would be approximately 35 feet in width. The project would provide approximately 115 parking spaces. Parking is spaced throughout the project site with a heavy concentration of parking along the north and south sides of the Data Center buildings. The project would provide adequate Electric Vehicle, Clean Air and Vanpool parking spaces per Cal Green requirements.

3.3.2.3 *Site Grading, Excavation, and Phasing*

For Phase I, construction activities would last approximately 11 months. Phase II construction is estimated to be completed in approximately 10 months. Phase I is intended to be in operation by 2023. Phase 2, if constructed, is anticipated to be constructed within 4 to 7 years of Phase 1. The existing site is located within the 100-year FEMA flood plain and will require fill to raise the site above base flood elevation. Fill for both Phase I and Phase II buildings would be brought to the site as part of Phase I construction. Roughly 210,000 cubic yards of fill would be imported to the site to raise the base elevation by approximately four feet (1.5 feet above the base flood elevation).

Excavation for utilities would extend to depths of up to 15 feet below the new base elevation. The site would be graded to direct stormwater flows towards biotreatment areas located along the northern and southern boundaries of the site.

3.3.2.4 *Landscaping*

There are 18 trees present at the project site (including adjacent properties): five (5) private non-protected trees on-site, six (6) street trees adjacent to this property, one (1) street tree adjacent to a neighboring property, and six (6) trees overhanging from adjacent properties. The project proposes to remove all 18 existing trees: nine (9) existing trees, five (5) street trees and four (4) on-site trees. Trees are to be replaced per the City's tree replacement ratios. An Arborist Report is included in Appendix E.

Proposed landscaping will consist of trees and shrubs at the perimeter of the site, for screening, drought-tolerant shrubs, and groundcovers at main entries and adjacent to interior drive aisles and parking stalls. Large open spaces on-site, will be seeded with a non-irrigated mix that is tailored to the site conditions. A low-flow, efficient, potable-water irrigation system will be designed for all landscape areas planted with container plants.

3.3.2.5 *Stormwater Controls*

Under Provision C.3 of the Municipal Regional Stormwater NPDES Permit (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.

There are no stormwater treatment facilities at the site in the existing condition. Existing rainwater runoff infiltrates into the ground or is sheet-slowed toward the southern property line.

The project proposes to construct one stormwater treatment (bioretention) area totaling approximately 201,000 sf. The bioretention area would be located along the eastern and southern property boundary. The site would be graded to direct stormwater into the bioretention treatment area via multiple storm drain inlet and pipe networks throughout the project site. The treatment area would include perforated underdrains and overflow structures that would ultimately discharge into the public storm drain line in Arroyo Circle near the southern property boundary.

3.3.2.6 *Building Cooling System*

Data Hall Cooling

The data center utilizes a flooded room design with a common supply air header and supply air dampers discharging air from both sides of the data hall perimeter wall down each cold aisle. The supply air headers are located along one side of each mechanical DAHU (Data-hall Air Handling Unit) room and ties all DAHUs on each side of the data hall into a common supply air source. Airflow will discharge through row supply dampers in the supply air header with both controlled damper sections and manually adjustable damper sections. Fan wall data hall air handling units (DAHUs) are the primary cooling source for the data hall deployments. These units are installed in dedicated mechanical galleries on opposite sides of the data hall, and will draw in outside air through sidewall louvers. These units are capable of supplying 100% outdoor air for data center cooling and, when necessary, cool the outside air through the use of evaporative cooling. The DAHUs utilize evaporative media to evaporate water and cool the outside air to the supply air set-point determined by the control system.

Data hall pressurization requirements are maintained using rooftop exhaust fans (EFs). These fans modulate in unison to maintain space pressure throughout the control area uniformly. During part load conditions, fans stage off as necessary to maintain minimum fan airflow requirements.

Electrical Room Cooling

The data center utilizes multiple ductless split system DX heat pumps in the electrical room. The heat gain in these rooms is minimal, as there are no large transformers in the electrical rooms. This design requires five heat pumps in typical electrical rooms, and three units in catcher rooms.

Office Cooling

The data center office area utilizes a variable refrigerant volume (VRV) system with a dedicated outside air system (DOAS). The VRV system is broken up into three separate systems, each with multiple circuits. This provides cooling redundancy for the house electrical room. The ventilation requirements for the space are met with a ducted DOAS system.

3.3.2.7 *Site Water Supply and Use*

Site Grading and Construction. Grading and construction of the GCD including the GBGF is estimated to utilize 1.84 acre feet of water over the 21 month construction period for Phase I and Phase II.

GDC Operation. The GDC will require water when outside air temperatures exceed 83F. The data center will be designed to use recycled water when supply is available and provided by the City of Gilroy, and a potable water connection will be provided as a back-up source to the recycled water system in the interim period. Total water for cooling would be approximately 2.7 AFY per building phase for a total water use for cooling at full buildout of the GDC of approximately 5.4 AFY. Landscaping for the site is estimated to use up to 15.8 AFY. Potable and sanitary uses are on the order of 0.5 AFY per building.

ADS is currently working with the City of Gilroy relating to the use its of recycle water at the site for cooling and landscaping purposes. However, at this time the City does not provide recycled water to the site. The nearest recycled water main trunk line is located at the intersection of Camino Arroyo and Holloway Road, approximately 1 mile south of the project site. The City would likely extend the water main trunk line north along Camino Arroyo to the intersection of Arroyo Circle and Camino Arroyo in the future and once extended recycled water would be used at the site. Final routing will be determined with by the City and Santa Clara Valley Water Authority in accordance with the Recycled Water Master Plan. However, please see Figure 3.3-1 for an exhibit of a potential recycled water main trunkline extension route.

3.3.2.8 *Electrical Power*

Electric Easements

Negotiations and commitments have been made with the property owner to the south of the property to secure an 80 foot overhead electrical easement along the southern boundary of Lot 2.

Interim Electricity Supply

The data center may begin operating prior to completion of the proposed electrical substation. To provide electricity to the data center during this interim period, the project has requested an interim service from PG&E capable of supporting 15 MW of electrical load. The 21kV feeders will be

Source: Ruggeri-Jensen-Azar, May 22, 2020.

POTENTIAL RECYCLED WATER MAIN | FIGURE 3.3-1

supplied from the PG&E's existing Llagas Substation located approximately 1.5 miles to the southwest of the site and travel through underground conduit to the site. Where possible the feeders will reuse existing utility substructures (e.g. vaults, pull boxes, and conduit).

Once on the GDC property, the feeder would continue underground to the Medium Voltage switchgear and transformers located in the northern portion of the site. The primary environmental impact will be boring to facilitate the underground feeder and digging to set vaults for utility MV equipment, pulling cables, and splicing cables together.

New PG&E Substation

As part of the Phase I construction, ADS would construct a new substation capable of supplying electricity to the full buildout. The substation will encompass approximately 4 acres on the western boundary of the site. The substation switch yard will ultimately be owned and operated by PG&E. ADS will own and operate the Transformer yard. The substation components will include cabling, transformers, and circuit breakers. The substation will be fenced per PG&E standard.

Interconnection of the new substation to the distribution grid would require PG&E to install approximately 3 new electric transmission poles and approximately 1,000 linear feet of new overhead 115kV transmission line. The incoming transmission power lines will originate from PG&E's existing 115kV Morgan Hill-Llagas line located near the site at pole 019/121 and will enter the site along a pre-negotiated easement with the adjacent property owner.

3.3.2.9 *Workforce*

Construction

While a contractor has not yet been selected for demolition and construction activities, the average construction workforce is estimated to be 75 with a peak estimated to be 110 for each phase. Since the GDC will be constructed in phases, laydown areas are anticipated to be on-site.

Operation

The proposed data storage center operations will have three employee shifts which will be scheduled to begin and end during off-peak hours. After buildout there will be up to 50 full time employees. In addition to employees, based on the types of project necessary to maintain the facility, there could be up to a maximum of 74 contractors on site occasionally to complete special projects.

3.4 MITIGATION INCORPORATED INTO THE PROJECT DESIGN

3.4.1 Agriculture and Forestry Resources

PD AG-1: Consistent with the City of Gilroy's Agricultural Mitigation Policy, the project shall implement the following measures:

1) The project shall preserve farmland through one of the two options below. The options shall include all costs to cover program administration, monitoring and management of established easements as outlined in Section 1.02 (E) of the Agricultural Mitigation Policy:

    a) Option 1: Purchase an equal amount of land (1:1 ratio) of agricultural land within the "Preferred Preservation Areas" (as defined in the Agricultural Mitigation Policy) and the transfer of the ownership of this land to the Silicon Valley Land Conservancy or other City-approved agency.

    b) Option 2: Purchase of development rights to a 1:1 ratio on agricultural land within the "Preferred Preservation Areas" and the transfer of ownership of these rights to the Silicon Valley Land Conservancy or other City-approved agency.

2) At the time of any initial land use application approval, the applicant shall enter into a deferred payment or dedication agreement establishing the specific criteria and timing for implementing any required mitigation. This deferred agreement shall be recorded with the County Recorder's Office against the proposed project property. All required mitigation must be completed prior to final map approval, or if no map is required, no later than issuance of the first building permit.

3) Lands deemed acceptable for preservation are:

    a) Those lands designated as "Prime" or of "Statewide Importance" by the State Department of Conservation in the Preferred Areas; and

    b) Has an adequate water supply to support the historic agricultural use on the land. The water supply for the land shall be protected in the farmland conservation easement, the farmland deed restriction or other document evidencing the agricultural mitigation.

4) Programs with those City-approved agencies handling conservation easements in the "Preferred Preservation Areas" shall include the financial responsibility by the developers for program administration, outreach to landowners, monitoring, and management of established easements. An additional nominal fee to cover these items, the amount of which shall be established by the Silicon Valley Land Conservancy or other City-approved agency in concert with the City, shall be required in addition to the mitigation options outlined above.

5) The project shall include Right to Farm deed restrictions as follows:

    a) All lands located within one thousand (1,000) feet of any agricultural lands deemed for preservation, as shown on the City's Farmland Preservation Area map, shall be subject to the placement of a "right to farm" deed restriction that conforms with both Santa Clara County

restrictions as well as the State of California real estate transfer disclosure requirements as a condition of approval for any discretionary permit.

b) The deed restriction shall include the following wording: "You are hereby notified that the property you are purchasing is located within 1,000 feet of agricultural land, agricultural operations or agricultural processing facilities. You may be subject to inconvenience or discomfort from lawful agricultural operations. Discomfort and inconvenience may include, but are not limited to, noise, odors, fumes, dust, smoke, burning, vibrations, insects, rodents, and/or the operation of machinery (including aircraft) during any 24-hour period. One or more of the inconveniences described may occur as a result of agricultural operations, which are in compliance with existing laws and regulations and accepted customs and standards. If you live near an agricultural area, you should be prepared to accept such inconveniences or discomfort as a normal and necessary aspect of living in an area with a strong rural character and an active agricultural sector. Lawful ground rig or aerial application of pesticides, herbicides and fertilizers occur in farming operations. Should you be concerned about spraying, you may contact the Santa Clara County Agricultural Commission."

c) The Right to Farm Deed Restriction shall be included in all subsequent deeds and leases for this property and shall conform with both Santa Clara County restrictions as well as the State of California real estate transfer disclosure as defined by this policy.

6) The project shall include agricultural buffers as follows:

a) To minimize future potential conflicts between agricultural and non-agricultural land uses, all new developments adjacent to designated agricultural, agricultural preserve, agricultural open space, greenbelt/agricultural buffer areas shall be required to provide an agricultural buffer/agricultural transition area.

b) The agricultural buffer/agricultural transition area shall be a minimum of one hundred fifty (150) feet measured from the edge of the agricultural, agricultural preserve, greenbelt area. No public access shall be allowed in this transition area due to the potential for complaints about and exposure to the dust and spraying associated with agricultural activities.

c) This agricultural buffer/agricultural transition area shall be comprised of two components:

i) A one hundred (100) foot minimum wide agricultural buffer zone located adjacent to the agricultural lands or greenbelt area. The following uses in the one hundred (100) foot or greater agricultural buffer area shall be limited to:
   (a) Native plants, trees or hedge rows
   (b) Drainage channels, storm retention ponds, natural areas such as creeks or drainage swales
   (c) Railroad tracks or other utility corridors

ii) A fifty (50) foot agricultural transition area located between the one hundred (100) foot minimum agricultural buffer area and any new development. The following uses are allowed in the fifty (50) foot agricultural transition area:
   (a) Native plants, trees or hedge rows

(b) Drainage channels, storm retention ponds natural areas such as creeks or drainage swales
(c) Bike paths, benches, lighting, trash enclosures and fencing
(d) Other non-residential uses determined by the Planning Commission to be consistent with the use of the property as an agricultural buffer; such as natural trails, bike paths, wildlife habitats, wildlife sanctuaries, or community service facilities like detention basins.

The agricultural buffer/transition area shall be constructed by the developer of any land adjacent to agricultural uses, subject to approved plans by the Community Development Department. This area shall be maintained by the developer according to standards approved by the City until the area is dedicated to and accepted by the City or other City approved agency at which time they shall be responsible for maintenance.

3.4.2 Air Quality

PD AIR-1: The project will implement the following measures during construction.

Basic Measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Exhaust Control Measures:

The following measures shall be implemented such that the off-road equipment to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) shall meet the emissions values as summarized in Table 4.3-6 (in Section 4.3 Air Quality). Acceptable methods for reducing emissions include the 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.

- The following construction equipment used at the site during Phase I and Phase II construction shall be electric:
    - Pressure washer
    - Welder
- The following construction equipment used at the site during Phase I and Phase II shall meet U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 2 verifiable diesel emission control devices that altogether achieve a 85 percent reduction in particulate matter exhaust:
    - Air compressors
    - Concrete/individual saws
    - Forklifts
    - Generator sets
    - Other construction equipment, such as concrete vibrators
    - Pavers
    - Pumps
    - Rollers
    - Sweepers/scrubbers
    - Tractors/loaders/backhoes
- The following construction equipment used at the site during Phase I shall meet U.S. EPA Tier 4 final emission standards according to one of the following options:
    - Option 1: Cranes, graders, rubber tired dozers, tractors/loaders/backhoes
    - Option 2: Cranes, graders, rubber tired dozers, bore/drill rigs
    - Option 3: Cranes, graders, rubber tired dozers, excavators
- The following construction equipment used at the site during Phase II shall meet U.S. EPA Tier 4 final emissions standards:
    - Cranes
    - Scrapers

PD AIR-2: The project shall limit generator maintenance and testing such that generator maintenance and testing operation does not occur during the same hour as the Phase II building exterior construction equipment.

PD AIR-3: The project shall not conduct maintenance and testing for the listed engines during the following hours and loads to comply with the 1-hour NO_2 NAAQS:

- GEN49 – No routine maintenance and testing at 100% load from 6:00 PM – 7:00 PM.
- GEN50 – No routine maintenance and testing at 100% load from 5:00 PM – 6:00 PM.
- SEC1 (Security Generator) – No routine maintenance and testing from 5:00 PM – 7:00 AM. Although the NO_x emissions exceed BAAQMD CEQA thresholds of significance, the concentration of NO_x resulting from the project would not exceed the CAAQS or NAAQS with implementation of Project Design Measures PD AIR-1.1 and PD AIR-1.2. The ambient air quality dispersion model resulted in PM_{10} exceeding the CAAQS, however this was due to background concentration data rather than pollutant concentrations resulting from the project.

Furthermore, although PM_{10} exceeded the CAAQS due to high background pollutant concentrations, project emissions of PM_{10} were below applicable SILs. Therefore, the project would not conflict with or have any adverse impact on implementation of the 2017 Bay Area Clean Air Plan nor would the project disrupt, or hinder implantation of any plan control measures with mitigation incorporated.

3.4.3 Biological Resources

PD BIO-1: The project would incorporate the following measures to reduce impacts to nesting birds.

- If removal of the trees on-site would take place between January and September, a pre-construction survey for nesting raptors will be conducted by a qualified ornithologist to identify active nesting raptor nests that may be disturbed during project implementation. Between January and April (inclusive) pre-construction surveys will be conducted no more than 14 days prior to the initiation of construction activities or tree relocation or removal. Between May and August (inclusive), pre-construction surveys will be conducted no more than thirty (30) days prior to the initiation of these activities. The surveying ornithologist shall inspect all trees in and immediately adjacent to the construction area to be disturbed by these activities, and the ornithologist shall, in consultation with the State of California, Department of Fish and Wildlife (CDFW), designate a construction-free buffer zone (typically 250 feet) around the nest until the end of the nesting activity.

- The applicant shall submit a report indicating the result of the survey and any designated buffer zones to the satisfaction of the Director of Community Development prior to the issuance of a tree removal permit by the City Arborist.

PD BIO-2: The project is subject to applicable Habitat Plan conditions and fees (including the nitrogen deposition fee) prior to issuance of any grading permits. The project applicant shall submit the Santa Clara Valley Habitat Plan Coverage Screening Form and Application for Private Projects to City of Gilroy Planning Division for approval and shall pay all applicable fees prior to the issuance of a grading permit. Applicable conditions shall be implemented in accordance with Habitat Plan requirements.

3.4.4 Cultural Resources

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

- A Secretary of the Interior-qualified archaeologist and a Native American cultural resources monitor shall be on site to monitor grading of native soil. The project applicant shall submit the name and qualifications of the selected archaeologist and Native American Monitor to the Director of Community Development prior to the issuance of a grading permit. Preference in selecting Native American monitors shall be given to Native Americans with:

    - Traditional ties to the area being monitored.
    - Knowledge of local historic and prehistoric Native American village sites.
    - Knowledge and understanding of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.

- Ability to effectively communicate the requirements of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.
- Ability to work with law enforcement officials and the Native American Heritage Commission to ensure the return of all associated grave goods taken from a Native American grave during excavation.
- Ability to travel to project sites within traditional tribal territory.
- Knowledge and understanding of Title 14, California Code of Regulations, Section 15064.5.
- Ability to advocate for the preservation in place of Native American cultural features through knowledge and understanding CEQA mitigation provisions.
- Ability to read a topographical map and be able to locate site and reburial locations for future inclusions in the Native American Heritage Commission's Sacred Lands Inventory.
- Knowledge and understanding of archaeological practices, including the phases of archaeological investigation.

Prior to grading, the archaeologist shall conduct a pedestrian survey over the exposed soils to determine if any surface archaeological manifestations are present.

- A qualified archaeologist shall complete mechanical presence/absence testing for archaeological deposits and cultural materials. In the event any prehistoric site indicators are discovered, additional backhoe testing will be conducted to map the aerial extent and depth below the surface of the deposits. In the event prehistoric or historic archaeological deposits are found during presence/absence testing, the significance of the find will be determined. If deemed significant, a Treatment Plan will be prepared and provided to the Director of Community Development. The key elements of a Treatment Plan shall include the following:

    - Identify scope of work and range of subsurface effects (include location map and development plan),

    - Describe the environmental setting (past and present) and the historic/prehistoric background of the parcel (potential range of what might be found),

    - Develop research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information),

    - Detail field strategy used to record, recover, or avoid the finds (photogs, drawings, written records, provenience data maps, soil profiles, excavation techniques, standard archaeological methods) and address research goals.

    - Analytical methods (radiocarbon dating, obsidian studies, bone studies, historic artifacts studies [list categories and methods], packaging methods for artifacts, etc.).

    - Report structure, including a technical and layman's report and an outline of document contents in one year of completion of development (provide a draft for review before a final report),

    - Disposition of the artifacts,

    - Appendices: site records, update site records, correspondence, consultation with Native Americans, etc.]

The archaeologist will monitor full-time all grading and ground disturbing activities in native soils associated with construction of the proposed project. If the archaeologist and Native American monitor believe that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results shall be provided to the Director of Community Development. Department of Recreation 523 forms shall be submitted along with the report for any cultural resources encountered over 50 years old.

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

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

PD CUL-2: The project proposes to implement the following measure to ensure the project's impacts to human remains are less than significant:

- In the event that human remains are discovered during presence/absence testing or excavation and/or grading of the site, all activity within a 50-foot radius of the find will be stopped. The Santa Clara County Coroner will be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. All actions taken under this mitigation measure shall comply with Health and Human Safety Code § 7050.5(b).

3.4.5 Geology and Soils

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

- 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 Gilroy's Building & Safety 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 2016 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.

PD GEO-2: The project proposes to implement the following measures as best management practices to ensure impacts to paleontological resources are less than significant.

a) Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology, who is experienced in teaching non- specialists, to ensure they can recognize fossil materials and shall follow proper notification procedures in the event any are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate its significance.

b) If a fossil is found and determined by the qualified paleontologist to be significant and avoidance is not feasible, the paleontologist shall develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall then be deposited in a scientific institution with paleontological collections. A final Paleontological Mitigation Plan Report shall be prepared that outlines the results of the mitigation program. The Director of Planning and Inspection shall be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented.

3.4.6 Hazards and Hazardous Materials

PD HAZ-1: The project proposes to implement the following measures which would reduce potentially significant soil and or groundwater impacts to construction workers to a less than significant level.

- A Site Management Plan (SMP) would 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 would include:
    - a detailed discussion of the site background;
    - 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 handing 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 City of Gilroy Planning Division.

- If contaminated soils are found in concentrations above risk-based thresholds pursuant to the terms of the SMP, remedial actions and/or mitigation measures would 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.

3.4.7 Hydrology and Water Quality

PD HYD-1: Prior to issuance of a grading permit, a Conditional Letter of Map Revision-Fill (CLOMR-F) study shall be completed and submitted to FEMA for review and approval. After completing site grading or construction in the floodplain, a final LOMR-F study shall be completed and submitted to FEMA for review and approval to reflect the as-built conditions on the Flood Insurance Rate Map (FIRM).

3.4.8 Noise

PD NOI-1: The project shall incorporate the following measures to reduce the noise impact associated with the use of pile drivers:

- A barrier shall be included for the duration of pile driving activities with the following specifications for Phase I construction, or alternatively utilize auger cast piles instead of driven piles.
    - Barrier 1: 330 feet in length, 10 feet tall
    - Barrier 2: 165 feet in length, 10 feet tall
    - Barriers shall be placed in the locations specified by Trinity Consultants in Figure 4.7 of Appendix J.
- A barrier shall be included for the duration of pile driving activities with the following specifications for Phase II construction, or alternatively utilize auger cast piles instead of driven piles.
    - Barrier 3: 560 feet in length, 13 feet tall
    - Barrier 3 shall be placed in the location specified by Trinity Consultants in Figure 4.9 of Appendix J.

SECTION 4.0 ENVIRONMENTAL SETTING, CHECKLIST, AND IMPACT DISCUSSION

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

4.1	Aesthetics	4.12	Mineral Resources
4.2	Agriculture and Forestry Resources	4.13	Noise
4.3	Air Quality	4.14	Population and Housing
4.4	Biological Resources	4.15	Public Services
4.5	Cultural Resources	4.16	Recreation
4.6	Energy	4.17	Transportation
4.7	Geology and Soils	4.18	Tribal Cultural Resources
4.8	Greenhouse Gas Emissions	4.19	Utilities and Service Systems
4.9	Hazards and Hazardous Materials	4.20	Wildfire
4.10	Hydrology and Water Quality	4.21	Environmental Justice
4.11	Land Use and Planning	4.22	Mandatory Findings of Significance

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 1) includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts as well as the City of Gilroy's adopted local thresholds of significance and checklist questions consistent with CEQA Guidelines section 15022 and 2) discusses the project's impact on the environmental subject as related to the checklist questions. For significant impacts, feasible mitigation measures are identified. "Project Design measures" are measures 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. Mitigation 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.

4.1 AESTHETICS

4.1.1 Environmental Setting

4.1.1.1 *Regulatory Framework*

State

Streets and Highway Code Sections 260 through 263

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.

Local

Gilroy 2040 General Plan

The following General Plan policies related to aesthetics are applicable to the proposed project:

Policies	Description
LU 5.1	**Industrial Design Standards.** Ensure that new commercial and industrial developments contribute to the overall attractiveness of the community through appropriate site design, architectural design, and landscaping.
NCR 2.3	**Other Scenic Roadways** Protect important scenic qualities and natural features on other roadways in the Planning Area, including Miller Avenue from Uvas Park Drive and Miller Avenue to Mesa Road.
M 5.9	**Highway 101 Landscaping and View Protection.** Coordinate with Caltrans and Santa Clara County to provide additional landscaping along the U.S. 101 right-of-way to enhance its attractiveness, recognizing that it is the primary "visitor-serving" traffic artery in the Planning Area. Also, encourage new developments facing U.S. 101 to provide landscape screening and to protect and enhance existing views of farmland and surrounding hills.
NCR 2.1	**Scenic Routes** Maintain the scenic character and ecology of the hillsides of the City when designing circulation facilities. Any roadways that must pass through hillside areas will be designed so as to preserve the ecological and scenic character of the hillsides, and high quality vistas.
PFS 8.10	**Outdoor Lighting and Energy Efficiency** Select outdoor lamps and light fixtures that maximize energy efficiency, provide effective lighting, and are compatible with the neighborhood context.
PFS 8.11	**Light Pollution and Glare** Require that light sources and fixtures be selected, designed, and located to minimize light pollution and glare.

4.1.1.2 *Existing Conditions*

The project site is currently occupied by an agricultural field. The northern corner of the site is barren dirt and is used as a vehicle staging area. The project site is surrounded by agricultural fields to the south and east. The project site is adjacent to one and two story commercial and office buildings to the north and west. Highway 101 is located west of the project site. Views from the project site include neighboring buildings and fields, landscaped trees, and distant hills to the east and west (refer to Photos 1 and 2).

4.1.2 Impact Discussion

In addition to the checklist questions contained in the CEQA Guidelines, the checklist below includes thresholds of significance adopted by the City of Gilroy in its 2040 General Plan.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
City of Gilroy Adopted CEQA Thresholds				
e) Have a substantial adverse effect on a scenic vista or degrade the existing visual character in the Hecker Pass Specific Plan Area or the hillside areas?	☐	☐	☐	☒
f) Substantially damage scenic resources viewed from Hecker Pass Highway or Pacheco Pass Highway?	☐	☐	☐	☒
g) Substantially damage scenic resources (farmland and surrounding hills) viewed from Highway 101?	☐	☐	☒	☐

Photo 1: View of project site facing southeast.

Photo 2: View of surrounding area facing northwest.

Source: Google Maps.

PHOTOS 1 & 2

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
h) Result in unattractive entrances (including lack of sufficiently landscaped entrances with landscaped medians, indicating civic pride and a concern for civic beauty) at the principal gateways to the City (north and south Monterey Street, Highway 152/ Pacheco Pass, north and south Santa Teresa Boulevard, and at the Highway 101 interchanges at Masten, Buena Vista, Leavesley, and Tenth Street)?	☐	☐	☐	☒
i) Include or require a wall or fence higher than seven feet measured from the finished grade on the higher side of the fence at the property line, or as allowed by the Gilroy Zoning Ordinance, Section 30.34?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

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

The 2040 General Plan does not designate scenic vistas within the City; however, it does identify scenic resources that include views of the surrounding hillsides provided by open spaces such as agricultural lands. The project would develop a property currently used for agriculture, replacing fields with an industrial data center, thereby introducing visual obstructions on a site that is currently undeveloped. The data center facility would be approximately 35 feet at the roof's high point with parapets extending to a height of 45 feet at the high point.

Under existing conditions, views of the project site and the hillside areas to the east are almost entirely obscured by development adjacent to Highway 101. A small portion of the project site extends west to Highway 101 and is currently undeveloped, offering a small window through which to view the hillside areas to the east. However, the views in this area are partially obscured by mature trees that line Highway 101. Because the project would not substantially block views of agricultural lands and hillsides that are currently unimpeded, the project would not have a substantial adverse effect on a scenic vista. **(Less than Significant Impact)**

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)**

The closest officially designated State Scenic Highway is State Route (SR) 152. The project site is approximately 20 miles west of the segment of SR 152 that is officially designated.[6] The project site would not be visible from SR 152 or any other officially designated State Scenic Highways. Therefore, the project would not substantially damage scenic resources within a state scenic highway. **(No Impact)**

Impact AES-3:	The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings or conflict with applicable zoning and other regulations governing scenic quality. **(Less than Significant Impact)**

As described in Section 4.1.1.2 Existing Conditions, the project is in an area mixed with urban and non-urban land uses. The project would replace existing agricultural fields but would not substantially block views of the distant hills or much of the surrounding agricultural fields. The project would not substantially degrade the existing visual character or quantity of public views of the site and its surroundings. The project site is zoned M2 General Industrial District. According to Table 30.23.10 of the City Code, data processing establishments are permitted within the General Industrial District zoning. Therefore, the project would not conflict with the applicable zoning. **(Less than Significant Impact)**

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)**

Although the project site is currently undeveloped, it is located within an urbanized area of Gilroy which already experiences some levels of light and/or glare from the surrounding development and vehicle traffic. The project would introduce new development to the site which would include outdoor security lighting.

The 2040 General Plan includes goals and policies to address increases in lighting and glare that have the potential to substantially impact day or nighttime views. Policy NCR 1.10 addresses light pollution by encouraging the use of measures to limit exterior light pollution and requires that outdoor lighting is directed downward. Policy LU 8.12 and PFS 8.10 require efficient exterior lighting fixtures that maximize energy efficiency while providing effective lighting. PFS 8.10 further requires compatibility with the neighborhood context. The 2040 General Plan EIR concluded that implementation of these policies, in addition to compliance with Gilroy Municipal Code section 30.50.44(c) and with the City's Architectural and Site Review process, would reduce the light and glare impacts from new development to a less than significant level.

[6] California Department of Transportation (Caltrans). California State Scenic Highway System Map. Accessed November 10, 2020. https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983

Consistent with relevant General Plan policies, the design of the exterior lighting for the project incorporates measures that would minimize or reduce any significant impacts from light or glare (i.e., directing light downward, etc.). The project would also be subject to the City's Architectural and Site Review process and would be required to comply with Gilroy Municipal Code section 30.50.44(c). While new lighting would be introduced as part of the development, the additional lighting would not adversely affect day or nighttime views. As a result, any impacts would be less than significant. **(Less than Significant Impact)**

Impact AES-5:	The project would not have a substantial adverse effect on a scenic vista or degrade the existing visual character in the Hecker Pass Specific Plan Area or the hillside areas. **(No Impact)**

The project is not located in the Hecker Pass Specific Plan area or in a hillside area. Because the project is not located within Hecker Pass Specific Plan area or a hillside area, development of the proposed project would not result in substantial adverse effects on scenic vistas or visual character in these areas. For these reasons, there would be no impact. **(No Impact)**

Impact AES-6:	The project would not substantially damage scenic resources viewed from Hecker Pass Highway or Pacheco Pass Highway. **(No Impact)**

The project is approximately 1.5 miles east of the closest segment of Hecker Pass Highway and one mile north of Pacheco Pass Highway. The project site is not visible from the nearest segments of Hecker Pass Highway or Pacheco Pass Highway and thus, would not have an impact on scenic resources viewed from them. The project would be a maximum of 44 feet in height and would not be visible from either Hecker Pass Highway or Pacheco Pass Highway. **(No Impact)**

Impact AES-7:	The project would not substantially damage scenic resources (farmland and surrounding hills) viewed from Highway 101. **(Less than Significant Impact)**

The project site is adjacent to Highway 101. The project would replace existing farmland with a data center and backup generating facility. However, only a small portion of the site is viewable from Highway 101 due to existing development, and the viewable portion is partially obscured by roadside tree screenings. The project would include agricultural buffer zones, hydroseed areas, and lines of trees around the site perimeter that would help soften the project's appearance. Because the project would not substantially block views of agricultural lands and hillsides that are currently unimpeded, the project would not substantially damage scenic resources viewed from Highway 101. **(Less than Significant Impact)**

Impact AES-8:	The project would not result in unattractive entrances (including lack of sufficiently landscaped entrances with landscaped medians, indicating civic pride and a concern for civic beauty) at the principal gateways to the City (north and south Monterey Street, Highway 152/ Pacheco Pass, north and south Santa Teresa Boulevard, and at the Highway 101 interchanges at Masten, Buena Vista, Leavesley, and Tenth Street). **(Less than Significant Impact)**

The nearest principal gateway is the Highway 101 interchange at Leavesley Road, approximately 0.4 miles northwest of the project site. The project site is not visible from this interchange due to existing development. Therefore, the project would not result in an unattractive entrance at a principal gateway. **(No Impact)**

Impact AES-9:	The project would not include or require a wall or fence higher than seven feet measured from the finished grade on the higher side of the fence at the property line, or as allowed by the Gilroy Zoning Ordinance, Section 30.34. **(Less than Significant Impact)**

The project would include an eight-foot tall tubular steel security fence around the perimeter of the proposed data center, which is one foot taller than the maximum of seven feet. As stated in the City's Zoning Ordinance, it is the intent Section 30.34 to control the location, height and materials of fences and other visual or physical obstructions so that they do not adversely affect adjacent properties or obstruct vision along public streets. The security fence would not be a solid wall, instead consisting of thin tubular steel slats that would not obstruct vision. Because the fence proposed by the project would not conflict with the intent of Section 30.34 of the Zoning Ordinance, the project would not result in a significant impact. Additionally, the City may require the fence to be lowered to seven feet during the Architectural and Site Review process, further reducing the impact. **(Less than Significant Impact)**

4.2 AGRICULTURE AND FORESTRY RESOURCES

4.2.1 Environmental Setting

4.2.1.1 *Regulatory Framework*

State

Farmland Mapping and Monitoring Program

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 called 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.

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.

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.[7] 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 or adjacent to a project site.[8]

Local

Gilroy 2040 General Plan

The following General Plan policies related to agricultural resources are applicable to the proposed project:

[7] 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)).

[8] California Department of Forestry and Fire Protection. "Fire and Resource Assessment Program." Accessed April 26, 2019. http://frap.fire.ca.gov/.

Policies	Description
LU 5.5	**Agriculture in Industrial Areas** Encourage agriculture as an interim use in areas designated for industrial development.
LU 6.1	**Economic Viability of Agriculture** Support the long-term economic viability of agriculture and agri-tourism and encourage landowners with land designated as "Rural County" to keep their land in cultivation.
LU 6.3	**Agricultural Uses within the Planning Area** Encourage agriculture on land designated as "Rural County" as a compatible use in undeveloped portions of the Planning Area.
LU 6.4	**Agricultural Uses in Hazard Areas** Encourage areas subject to natural hazards such as major flooding or soils with a high water table to establish or continue long-term agricultural production.
LU 6.7	**Agricultural Mitigation** Maintain and implement an Agricultural Mitigation Program to protect productive agricultural lands outside the Urban Growth Boundary from urban encroachment and to establish the mitigation requirements for loss of agricultural lands to new development.

4.2.1.2 *Existing Conditions*

According to the Santa Clara County Important Farmland 2016 map, approximately 32 acres of the site are classified as Prime Farmland and 22 acres are classified as Farmland of Statewide Importance.[9] Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date. Farmland of Statewide Importance is similar to prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date. The site is not the subject of a Williamson Act contract.[10]

Although the site is currently utilized for agricultural purposes, the site is zoned *M-2 General Industrial,* which allows data processing establishments with an unconditional permit. The project site is designated *General Industrial* under the City's General Plan. Agricultural uses border the site to the east and southeast on properties designated as *General Industrial* and *Open Space* in the General Plan and zoned as *M-2 General Industrial*.

The project site is not zoned for forest land or timberland, and no land adjacent to the project site is designated or used as timberland, or forest land.

[9] California Department of Conservation. *Santa Clara County Important Farmland 2016.* September 2016.
[10] California Department of Conservation *Santa Clara County Williamson Act FY 2015/ 2016.* 2016

4.2.2 Impact Discussion

In addition to the checklist questions contained in the CEQA Guidelines, the checklist below includes thresholds of significance adopted by the City of Gilroy in its 2040 General Plan.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
City of Gilroy Adopted CEQA Thresholds				
a) Convert Prime 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 an urban use (projects requiring a legislative act, such as zoning changes, annexation to the City, urban service area amendments, etc.)?	☐	☒	☐	☐
b) Conflict with a Williamson Act contract?	☐	☐	☐	☒
c) 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?	☐	☐	☒	☐
CEQA Guidelines Thresholds				
d) 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))?	☐	☐	☐	☒
e) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

Impact AG-1:	The project would not convert Prime 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 an urban use (projects requiring a legislative act, such as zoning changes, annexation to the City, urban service area amendments, etc.)? **(Less than Significant Impact with Mitigation Incorporated)**

The State Department of Conservation developed the Land Evaluation and Site Assessment (LESA) analysis methodology to assess the agricultural value of agricultural land and pursuant to CEQA, to provide lead agencies with an optional methodology to ensure that potentially significant effects on the environment resulting from agricultural land conversions are quantitatively and consistently considered in the environmental review process (Public Resources Code Section 21095). The CEQA

Guidelines Appendix G provides further guidance noting that for CEQA purposes, although not required, a lead agency may refer to LESA as an optional model when determining whether impacts to agricultural resources are significant. The LESA is a point-based approach to analysis that rates a site's relative agricultural value based on the land evaluation (quality of soils) and site assessment (site size, water availability, surrounding land use, and presence/absence of agricultural protections).

In Gilroy, project-specific impacts of farmland conversion are evaluated using the LESA methodology when a project site is 10 acres or greater of prime farmland or 40 acres or greater of farmland of statewide importance. Projects with a total LESA score between 40 and 59 are classified as significant only if both the land evaluation and site assessments components have a score of at least 20. Total scores between 60 and 79 are classified as significant unless either of the two factors is below 20 points. Total scores of 80 or above are classified as significant. A project's LESA score is also used by the city to determine the extent of required agricultural mitigation consistent with its Agricultural Mitigation Policy.

As described previously, approximately 32 acres of the site are classified as Prime Farmland and 22 acres are classified as Farmland of Statewide Importance. The project would redevelop the site and convert the farmland to urban uses. In accordance with City policy, a LESA analysis was completed for the site (refer to Appendix B). The results of the LESA analysis determined a total score of 64.5, with a land evaluation score of 36.8 and a site assessment score of 27.75. Based on the LESA analysis, conversion of the site to urban uses would be considered a significant impact. As a result, the project would be subject to the City's Agricultural Mitigation Policy, as described in further detail below.

Mitigation Incorporated into the Project Design

PD AG-1: Consistent with the City of Gilroy's Agricultural Mitigation Policy, the project shall implement the following measures:

1) The project shall preserve farmland through one of the two options below. The options shall include all costs to cover program administration, monitoring and management of established easements as outlined in Section 1.02 (E) of the Agricultural Mitigation Policy:

    a) Option 1: Purchase an equal amount of land (1:1 ratio) of agricultural land within the "Preferred Preservation Areas" (as defined in the Agricultural Mitigation Policy) and the transfer of the ownership of this land to the Silicon Valley Land Conservancy or other City-approved agency.

    b) Option 2: Purchase of development rights to a 1:1 ratio on agricultural land within the "Preferred Preservation Areas" and the transfer of ownership of these rights to the Silicon Valley Land Conservancy or other City-approved agency.

2) At the time of any initial land use application approval, the applicant shall enter into a deferred payment or dedication agreement establishing the specific criteria and timing for implementing any required mitigation. This deferred agreement shall be recorded with the County Recorder's Office against the proposed project property. All required mitigation must be completed prior to final map approval, or if no map is required, no later than issuance of the first building permit.

3) Lands deemed acceptable for preservation are:

    a) Those lands designated as "Prime" or of "Statewide Importance" by the State Department of Conservation in the Preferred Areas; and

    b) Has an adequate water supply to support the historic agricultural use on the land. The water supply for the land shall be protected in the farmland conservation easement, the farmland deed restriction or other document evidencing the agricultural mitigation.

4) Programs with those City-approved agencies handling conservation easements in the "Preferred Preservation Areas" shall include the financial responsibility by the developers for program administration, outreach to landowners, monitoring, and management of established easements. An additional nominal fee to cover these items, the amount of which shall be established by the Silicon Valley Land Conservancy or other City-approved agency in concert with the City, shall be required in addition to the mitigation options outlined above.

5) The project shall include Right to Farm deed restrictions as follows:

    a) All lands located within one thousand (1,000) feet of any agricultural lands deemed for preservation, as shown on the City's Farmland Preservation Area map, shall be subject to the placement of a "right to farm" deed restriction that conforms with both Santa Clara County restrictions as well as the State of California real estate transfer disclosure requirements as a condition of approval for any discretionary permit.

    b) The deed restriction shall include the following wording: "You are hereby notified that the property you are purchasing is located within 1,000 feet of agricultural land, agricultural operations or agricultural processing facilities. You may be subject to inconvenience or discomfort from lawful agricultural operations. Discomfort and inconvenience may include, but are not limited to, noise, odors, fumes, dust, smoke, burning, vibrations, insects, rodents, and/or the operation of machinery (including aircraft) during any 24-hour period. One or more of the inconveniences described may occur as a result of agricultural operations, which are in compliance with existing laws and regulations and accepted customs and standards. If you live near an agricultural area, you should be prepared to accept such inconveniences or discomfort as a normal and necessary aspect of living in an area with a strong rural character and an active agricultural sector. Lawful ground rig or aerial application of pesticides, herbicides and fertilizers occur in farming operations. Should you be concerned about spraying, you may contact the Santa Clara County Agricultural Commission."

    c) The Right to Farm Deed Restriction shall be included in all subsequent deeds and leases for this property and shall conform with both Santa Clara County restrictions as well as the State of California real estate transfer disclosure as defined by this policy.

6) The project shall include agricultural buffers as follows:

    a) To minimize future potential conflicts between agricultural and non-agricultural land uses, all new developments adjacent to designated agricultural, agricultural preserve, agricultural open

space, greenbelt/agricultural buffer areas shall be required to provide an agricultural buffer/agricultural transition area.

b) The agricultural buffer/agricultural transition area shall be a minimum of one hundred fifty (150) feet measured from the edge of the agricultural, agricultural preserve, greenbelt area. No public access shall be allowed in this transition area due to the potential for complaints about and exposure to the dust and spraying associated with agricultural activities.

c) This agricultural buffer/agricultural transition area shall be comprised of two components:

    i) A one hundred (100) foot minimum wide agricultural buffer zone located adjacent to the agricultural lands or greenbelt area. The following uses in the one hundred (100) foot or greater agricultural buffer area shall be limited to:
        (a) Native plants, trees or hedge rows
        (b) Drainage channels, storm retention ponds, natural areas such as creeks or drainage swales
        (c) Railroad tracks or other utility corridors

    ii) A fifty (50) foot agricultural transition area located between the one hundred (100) foot minimum agricultural buffer area and any new development. The following uses are allowed in the fifty (50) foot agricultural transition area:
        (a) Native plants, trees or hedge rows
        (b) Drainage channels, storm retention ponds natural areas such as creeks or drainage swales
        (c) Bike paths, benches, lighting, trash enclosures and fencing
        (d) Other non-residential uses determined by the Planning Commission to be consistent with the use of the property as an agricultural buffer; such as natural trails, bike paths, wildlife habitats, wildlife sanctuaries, or community service facilities like detention basins.

d) The agricultural buffer/transition area shall be constructed by the developer of any land adjacent to agricultural uses, subject to approved plans by the Community Development Department. This area shall be maintained by the developer according to standards approved by the City until the area is dedicated to and accepted by the City or other City approved agency at which time they shall be responsible for maintenance.

Based on the City's adopted CEQA threshold, conversion of Prime Farmland or Farmland of Statewide Importance to an urban use would be considered a significant impact for projects requiring a legislative act, such as zoning changes, annexation to the City, urban service area amendments. The proposed project is consistent with the existing General Plan designation and zoning on the site. Because the project would not require a legislative act as defined in the City's CEQA threshold, and would implement the City's Agricultural Mitigation Policy, the project would result in a less than

significant impact to farmland.[11] **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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

The site is zoned *M-2 General Industrial* and 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)**

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 zoned *M-2 General Industrial*. The project, therefore, would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

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)**

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)**

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. **(Less than Significant Impact with Mitigation Incorporated)**

There is no forest land in the project vicinity. The project site is adjacent to agricultural uses along it easterly and southerly property lines. Consistent with the requirements of the Agricultural Mitigation Policy identified in PD AG-1, the project incorporates a 150-foot buffer along the aforementioned property lines to minimize conflicts between the development and adjacent agricultural operations. The buffer would be located within the project property and it will not be accessible to the public. Within the 100-foot agricultural buffer zone, the project includes landscaped stormwater quality treatment basins along with other native drought tolerant landscape plantings. Within the 50-foot agricultural transition area, the project includes landscaped stormwater quality treatment basins along with other native drought tolerant landscape plantings. Landscape features such as pedestrian pathways may be located within this zone consistent with the Agricultural Mitigation Policy. With implementation of required agricultural buffers and "right to farm" deed restrictions included in PD AG-1, the project would not involve changes to the existing environment that could result in the

[11] A finding of less than significant impact with mitigation incorporated is supported by the City of Gilroy, which has provided the applicant with communications confirming the City would consider the impact to be less than significant with implementation of the Agricultural Mitigation Policy.

conversion of farmland or forest land. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

4.3 AIR QUALITY

The following discussion is based on an Air Quality Impact Assessment by *Trinity Consultants* in November 2020. A copy of the report is attached to this Application as Appendix C.

4.3.1 Environmental Setting

4.3.1.1 *Climate and Meteorology*

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersion. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersion of air pollutants, and consequently affect air quality (Abbott, 2003).

The climate of the San Francisco Bay Area is determined largely by a high-pressure system that is almost always present over the eastern Pacific Ocean off the West Coast of North America. High-pressure systems are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface and resulting in the formation of subsidence inversions. In winter, the Pacific high-pressure system shifts southward, allowing storms to pass through the region. During summer and fall, emissions generated within the San Francisco Bay Area can combine with abundant sunshine under the restraining influences of topography and subsidence inversions to create conditions that are conducive to the formation of photochemical pollutants such as ozone (O_3) (Abbott, 2003).

More specifically, the project Area is located in the Santa Clara Valley climatological subregion. The Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines characterizes the Santa Clara Valley as:

> "…bounded by the Bay to the north and by mountains to the east, south and west. Temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild. At the northern end of the valley, mean maximum temperatures are in the low-80's during the summer and the high-50's during the winter, and mean minimum temperatures range from the high-50's in the summer to the low-40's in the winter. Further inland, where the moderating effect of the Bay is not as strong, temperature extremes are greater…"

Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds.

Wind speeds are greatest in the spring and summer and weakest in the fall and winter. Nighttime and early morning hours frequently have calm winds in all seasons, while summer afternoons and evenings are quite breezy. Strong winds are rare, associated mostly with the occasional winter storm.

The air pollution potential of the Santa Clara Valley is high. High summer temperatures, stable air and mountains surrounding the valley combine to promote O_3 formation. In addition to the many local sources of pollution, O_3 precursors from San Francisco, San Mateo and Alameda Counties are carried by prevailing winds to the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low level inversions, O_3 can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing northwesterlies in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of CO and PM. This movement of the air up and down the valley increases the impact of the pollutants significantly.

Pollution sources are plentiful and complex in this subregion. The Santa Clara Valley has a high concentration of industry at the northern end, in the Silicon Valley. Some of these industries are sources of air toxics as well as criteria air pollutants. In addition, Santa Clara Valley's large population and many work-site destinations generate the highest mobile source emissions of any subregion in the [Bay Area Air Basin]."

4.3.1.2 *Regional Air Quality*

National Ambient Air Quality Standards (NAAQS) are established by the U.S. EPA for various pollutants: O_3, PM_{10}, $PM_{2.5}$, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). These standards set maximum concentrations over different averaging periods—primarily to protect public human health and secondarily to protect public welfare (protect against decreased visibility as well as damage to animals, crops, vegetation, and buildings).

California Ambient Air Quality Standards (CAAQS) are established by the State of California and are in some cases more stringent than the NAAQS and include other pollutants in addition to the criteria pollutants. Pollutants covered by the CAAQS include O_3, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, Pb, sulfates, hydrogen sulfide (H_2S), and vinyl chloride.

Both state and national air quality standards consist of two parts: an allowable concentration of a pollutant, and an averaging time over which the concentration is measured. The allowable concentrations are based on the results of studies of the effects of the pollutants on human health, crops and vegetation, and, in some cases, damage to paint and other materials. The averaging times are based on whether the damage caused by the pollutant is more likely to occur during exposure to a high concentration for a short time (e.g., one hour), or to a relatively lower average concentration over a longer period (e.g., 8 hours, 24 hours, or one year). For some pollutants there is more than one air quality standard, reflecting both its short-term and long-term effects. Table 4.3-1 below presents the CAAQS and NAAQS for selected common pollutants, including pollutants applicable to the project.

The degree to which a region's air quality is healthy or unhealthy is determined by comparing pollutant concentrations in ambient air samples to the state and national standards presented in Table 4.3-1. California standards for O3, CO (except 8-hour Lake Tahoe), SO_2, NO_2, PM_{10}, $PM_{2.5}$, and visibility reducing particles are values that are not to be exceeded. All other CAAQS are not to be equaled or exceeded. Compliance with the national standards (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages) is achieved if the standards are not exceeded more than once per year. The O_3 standard is attained when the fourth-highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the

number of days per calendar year with a 24-hour average concentration above the standard is equal to or less than one, averaged over three years. Nonattainment areas are subject to additional restrictions and standards, as required by the U.S. EPA. The air quality data collected at local monitoring stations are also used to monitor progress in attaining air quality standards.

Under the provisions of the Federal Clean Air Act, the Bay Area Air Basin is classified as either in attainment, nonattainment, or unclassified/attainment with respect to the NAAQS. Table 4.3-2 provides the NAAQS and CAAQS classification statuses for the Bay Area Air Basin based on the local criteria pollutant concentrations and federal and state designations.

The human health and environmental effects of the criteria pollutants for which NAAQS are set are summarized in Table 4.3-3 below. The sections following Table 4.3-3 provide a more detailed discussion of the typical sources of such criteria pollutants.

Ozone (O_3)

O_3, or smog, is a highly reactive and unstable gas not emitted directly into the environment. O_3 is formed in the atmosphere by complex chemical reactions between ROG and NO_x in the presence of sunlight. O_3 formation is greatest on warm, windless, sunny days. The main sources of NO_x and ROG—often referred to as O_3 precursors—are combustion processes (including motor vehicle engines); the evaporation of solvents, paints, and fuels; and biogenic sources. O_3 is a main contributor to visible smog in the Bay Area Air Basin and is also a strong oxidant (BAAQMD, 2017b). O_3 levels typically build up during the day and peak in the afternoon hours.

Respirable and Fine Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter refers to a wide range of tiny solid and/or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Respirable PM with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. $PM_{2.5}$ is a subgroup of fine particulates that have an aerodynamic diameter of 2.5 micrometers or less. Some particulate matter, such as pollen, is naturally occurring. Atmospheric reactions between primary gaseous emissions such as SO_2 and NO_X from power plants can also form particulate sulfates as $PM_{2.5}$. Wood burning in fireplaces and stoves are also large sources of fine particulates, especially during the winter season (BAAQMD, 2017b).

Carbon Monoxide (CO)

CO is an odorless, colorless gas. It is formed by the incomplete combustion of fuels. Because CO is emitted directly from internal combustion engines, mobile sources are the primary source of CO in the BAAQMD. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. CO can also be formed by photochemical reactions in the atmosphere from methane (CH_4) and non-CH_4 hydrocarbons and organic molecules in water and soil (BAAQMD, 2017b).

Table 4.3-1: Summary of Ambient Air Quality Standards				
Pollutant	**Averaging Time**	**CAAQS**	**NAAQS**	**Major Pollutant Sources**
Ozone (O_3)	8-hour	0.070 ppm	0.070 ppm	Formed when ROG and NO_x react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/ industrial mobile equipment.
	1-hour	0.09 ppm	---	
Carbon Monoxide (CO)	8-hour	9.0 ppm	9 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles
	1-hour	20 ppm	35 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads
	1-hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Average	---	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants and metal processing
	24-hour	0.04 ppm	0.14 ppm	
	3-hour	--	0.5 ppm	
	1-hour	0.25 ppm	0.075 ppm	
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 μg/m^3	---	Dust- and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays); also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics.
	24-hour	50 μg/m^3	150 μg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 μg/m^3	12 μg/m^3	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics.
	24-hour	---	35 μg/m^3	
Lead (Pb)	Calendar Quarter	---	1.5 μg/m^3	Present sources: Pb smelters, battery manufacturing, and recycling facilities. Past source: combustion of leaded gasoline.
	30-day Average	1.5 μg/m^3	---	
	3-month Rolling Average	---	0.15 μg/m^3	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm	--	Geothermal power plants, petroleum production and refining
Vinyl Chloride	24-hour	0.01 ppm	--	Production of PVC plastic
Visibility Reducing Particles	8-hour	Extinction of 0.23/km; visibility of ≥ 10 miles	--	See $PM_{2.5}$.
Sulfates	24-hour	25 μg/m^3	--	Formed from SO_2 emitted from combustion of petroleum-derived fuels
Sources: BAAQMD, 2017b; CARB, 2009, 2016, and 2019. ppm = parts per million, □g/m^3 = micrograms per cubic meter				

Table 4.3-2: Summary of BAAQMD Attainment Status		
Pollutant	**California AAQS[a]**	**NAAQS[b]**
O_3—1-hour	Nonattainment	N/A
O_3—8-hour	Nonattainment	Nonattainment
CO —1-hour	Attainment	Attainment
CO —8-hour	Attainment	Attainment
Nitrogen Dioxide (NO_2)—1-hour	Attainment	Unclassified
Nitrogen Dioxide (NO_2) —Annual	Attainment	Attainment
Sulfur Dioxide (SO_2)—1-hour	Attainment	Unclassified
Sulfur Dioxide (SO_2)—3-hour	N/A	Attainment
Sulfur Dioxide (SO_2) —24-hour	Attainment	Attainment
Sulfur Dioxide (SO_2) —Annual	N/A	Attainment
PM_{10}—24-hour	Nonattainment	Unclassified
PM_{10}—Annual	Nonattainment	N/A
$PM_{2.5}$—24-hour	N/A	Nonattainment[c]
$PM_{2.5}$—Annual	Nonattainment	Unclassified/Attainment
Lead (Pb)	N/A[d]	Attainment
Hydrogen Sulfide (H_2S)	Unclassified	N/A
Vinyl Chloride	N/A[d]	N/A
Visibility Reducing Particles	Unclassified	N/A
Sulfates	Attainment	N/A

Sources: BAAQMD, 2017a and 2017c
Notes: AAQS = ambient air quality standards.
N/A = Not Applicable
a. See CCR Title 17 Sections 60200-60210
b. See 40 CFR Part 81
c. U.S. EPA tightened the national 24-hour $PM_{2.5}$ standard from 65 to 35 µg/m^3 in 2006. On January 9, 2013, U.S. EPA issued a final rule to determine that the Bay Area Air Basin was in attainment with respect to the 24-hour $PM_{2.5}$ national standard. This U.S. EPA rule suspends key state implementation plan (SIP) requirements as long as monitoring data continue to show that the Bay Area Air Basin attains the standard. Despite this U.S. EPA action, the Bay Area Air Basin will continue to be designated as nonattainment for the national 24-hour $PM_{2.5}$ standard until the BAAQMD submits a redesignation request and a maintenance plan to U.S. EPA, and U.S. EPA approves the proposed redesignation.
d. CARB has identified Pb and vinyl chloride as "toxic air contaminants" with no threshold level of exposure below which no adverse health effects have been determined.

Table 4.3-3: Summary of Health and Environmental Effects of Key Criteria Pollutants			
Pollutant	**Health Effects**	**Environmental Effects**	**Examples of Sources**
O_3	• Respiratory symptoms • Worsening of lung disease leading to premature death • Damage to lung tissue	• Crop, forest, and ecosystem damage • Damage to a variety of materials, including rubber, plastics, fabrics, paint and metals	• Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
PM_{10}	• Premature death & hospitalization, primarily for worsening of respiratory disease	• Reduced visibility and material soiling	• Cars and trucks (especially diesel), fireplaces, wood stoves, windblown dust from roadways, agriculture, and construction activities
$PM_{2.5}$	• Premature death • Hospitalization for worsening of cardiovascular disease • Hospitalization for respiratory disease • Asthma-related emergency room visits • Increased symptoms, increased inhaler usage	• Reduced visibility and material soiling	• Cars and trucks (especially diesel), fireplaces, wood stoves, windblown dust from roadways, agriculture, and construction activities
CO	• Chest pain in patients with heart disease • Headache • Light-headedness • Reduced mental alertness	• None	• Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
NO_2	• Lung irritation • Enhanced allergic responses	• Reacts to form acid precipitation and deposition	• Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
SO_2	• Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits	• Reacts to form acid precipitation and deposition	• Coal and oil burning power plants, refineries, and diesel engines
Pb	• Impaired mental functioning in children • Learning disabilities in children • Brain and kidney damage	• Soil and water pollutant	• Metal smelters, resource recovery, leaded gasoline, Pb paint
Source: CARB, 2009.			

Nitrogen Oxides (NO_X)

NO_2 is a pungent-smelling gas that is brownish red in color. Of the gases referred to as NO_x, NO_2 and nitric oxide (NO) are the two most prevalent gases. Nitrogen oxides are created during combustion processes and are also created in the atmosphere when NO photochemically reacts with other pollutants to create NO_2. Automobiles and industrial operations are the main sources of NO_2.

Ambient concentrations of NO_2 are related to traffic density, and as such, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than the concentrations indicated by regional monitors (CARB, 2019a). NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high O_3 levels (BAAQMD, 2017b).

Sulfur Dioxide (SO_2)

SO_2 is a colorless acid gas with a pungent odor. It is produced by the combustion of sulfur-containing fuels, such as oil, coal and diesel. It is also formed from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_x) (CARB, 2019b and CARB, 2019c).

Lead (Pb)

Pb is a metal found naturally in the environment as well as in manufactured products. The major sources of Pb emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest levels of Pb in the air are generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Several decades ago, mobile sources were the main contributor to Pb concentrations in the ambient air due to leaded gasoline. In the early 1970s, the U.S. EPA set national regulations to gradually reduce the Pb content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The U.S. EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the U.S. EPA's regulatory efforts, emissions of Pb from the transportation sector and levels of Pb in the air have decreased substantially (BAAQMD, 2017b).

4.3.1.3 *Local Air Quality*

BAAQMD operates a regional monitoring network that measures the ambient concentrations of the six criteria air pollutants within the Bay Area Air Basin. Existing levels of air pollutants in the project area can generally be inferred from ambient air quality measurements conducted by the BAAQMD at nearby monitoring stations. The nearest permanent station to the project site is the Gilroy monitoring station approximately one mile southwest. The Gilroy monitoring station only measures O_3 and $PM_{2.5.}$ The remaining pollutant measurements can be found from the next closest monitoring stations within the Bay Area Air Basin, which are the Knox Avenue monitoring station and the Jackson Street monitoring station, both in San Jose, approximately 30 miles to the northwest. The Knox Avenue monitoring station only measures CO and NO_2, therefore the remaining pollutant measures can be found from the Jackson Street monitoring station.

Table 4.3-4 presents the most recent three years of data (2017-2019) available for the monitoring stations.

The ambient air quality data in Table 4.3-4 show that $NO_{2,}$ SO_2, CO, and $PM_{2.5}$ levels are below the applicable state and federal standards. At the closest BAAQMD monitoring station to the project location providing PM_{10} measurements, the state AAQS are exceeded for PM_{10}. Attainment status designations can be seen in Table 4.3-2.

Table 4.3-4: Existing Air Quality Monitoring Data in Proposed Project Area a,b,c								
Pollutant	**Units**	**Averaging Time**	**Basis of Yearly/Design Concentrations**	**2017**	**2018**	**2019**	**Design**	**Station**
Ozone	ppb	1-Hr	CAAQS - 1st Highs/3-yr Max	96	97	79	N/A	Gilroy
		8-Hr	CAAQS - 1st Highs/3-yr Max	84	65	67	N/A	Gilroy
			NAAQS - 4th Highs/3-yr Avg	64	61	63	N/A	Gilroy
Nitrogen dioxide (NO_2)	ppb	1-Hr	CAAQS - 1st Highs/3-yr Max	76.9	88	65.1	88	Knox
			NAAQS - 98th %s/3-yr Avg	52.1	55.4	50.5	53	Knox
		Annual	CAAQS - AAM/3-yr Max	17.0	16.7	14.5	17	Knox
			NAAQS - AAM/3-yr Avg	17.0	16.7	14.5	16.1	Knox
Carbon monoxide (CO)	ppm	1-Hr	CAAQS - 1st Highs/3-yr Max	2.6	2.8	2.0	2.8	Knox
			NAAQS - 2nd Highs/3-yr Max	2.5	2.7	2.0	2.7	Knox
		8-Hr	CAAQS - 1st Highs/3-yr Max	1.8	2.3	1.6	2.3	Knox
			NAAQS - 2nd Highs/3-yr Max	1.8	2.3	1.6	2.3	Knox
Sulfur dioxide (SO_2)	ppb	1-Hr	CAAQS - 1st Highs/3-yr Max	3.6	6.9	14.5	14.5	Jackson
			NAAQS - 99th %s/3-yr Avg	3.1	3.2	2.2	2.8	Jackson
	ppm	3-Hr	NAAQS - 2nd Highs/1-yr	0.0023	0.0028	0.0019	0.0028	Jackson
	ppb	24-Hr	CAAQS - 1st Highs/3-yr Max	1.10	1.1	1.5	1.5	Jackson
	ppb	Annual	NAAQS - AAM/3-yr Avg	0.20	0.21	0.14	0.18	Jackson
Respirable Particulate Matter (PM_{10}) [d]	µg/m^3	24-Hr	CAAQS - 1st Highs/3-yr Max	69	121	77	121	Jackson
		24-Hr	NAAQS - 2nd Highs/3-yr 4th High [e]	67	118	56	80	Jackson
		Annual	CAAQS - AAM/3-yr Max	21.6	23.1	19.2	23	Jackson
Fine Particulate Matter ($PM_{2.5}$) [d]	µg/m^3	24-Hr	NAAQS - 98th %s/3-yr Avg	21.2	46.5	13.4	27	Gilroy
		Annual	CAAQS - AAM/3-yr Max	5.52	7.8	5.82	7.8	Gilroy
			NAAQS - AAM/3-yr Avg	5.52	7.8	5.82	6.4	Gilroy

a. Monitoring values are chosen sequentially based on proximity to the facility and availability of data. The Gilroy monitoring station located at 9th and Princevalle is closest in proximity, followed by the San Jose – Knox monitoring station located at 1007 Knox Ave, then San Jose – Jackson located at 158 East Jackson St. SO_2 24 hour and PM_{10} Annual CAAQS Data Sources: Bay Area Pollution Summaries (BAAQMD, 2018, 2019, and 2020a).

b. NAAQS and CAAQS with overlapping averaging time data sources: US EPA AirData Air Quality Monitors Data (2017, 2018, 2019) (US EPA, 2020b).

c. Note that significant wildfires occurred in California in 2017 and 2018, resulting in higher concentrations of particulate matter than in years without significant wildfires.

d. Design value is an average of PM_{10} 24-hour second highs from 2017, 2018, and 2019 per Section 2.1 of Appendix K to 40 CFR Section 50.6.

4.3.1.4 *Sensitive Land Uses Near the Proposed Project Area*

For the purposes of this analysis, sensitive receptors are considered locations with people who are more sensitive than the general public to the effects of air pollutants. The reasons for increased sensitivity include preexisting health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be sensitive receptors because children, the infirm, and elderly people are more susceptible to respiratory distress and other air-quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because residents are often home for extended periods of time which results in greater exposure to ambient air quality; however, residential receptors are considered a separate receptor category from sensitive receptors. Table 4.3-5 lists the nearest sensitive receptors

within two miles of the project's property boundary. The locations of the sensitive receptors are shown on Figure 3-1 of Appendix C.

Table 4.3-5: Sensitive Receptors near the Project Area		
Name of Sensitive Receptor	**Address of Sensitive Receptor**	**Distance from Property Boundary to Sensitive Receptor [miles]**
Kaiser Permanente Gilroy Medical Offices	7520 Arroyo Cir, Gilroy, CA 95020	0.06
Satellite Healthcare Gilroy	8095 Camino Arroyo Suite 100, Gilroy, CA 95020	0.08
Valley Health Center Gilroy	7475 Camino Arroyo, Gilroy, CA 95020	0.08
Gilroy Healthcare and Rehabilitation Center	8170 Murray Ave, Gilroy, CA 95020	0.33
Gilroy Neighborhood Health Clinic	7861 Murray Ave, Gilroy, CA 95020	0.34
South Valley Middle School	385 Ioof Ave, Gilroy, CA 95020	0.36
Wagon Wheel Mobile Village Senior Community	8282 Murray Avenue, Gilroy, CA 95020	0.44
Eliot Elementary School	475 Old Gilroy St, Gilroy, CA 95020	0.45
Rebekah Children's Services	290 Ioof Ave, Gilroy, CA 95020	0.46
Miranda's Residential Care Home	7566 Alexander St, Gilroy, CA 95020	0.5
Gilroy Prep School	277 Ioof Ave, Gilroy, CA 95020	0.52
Gardner South County Health Center	7526 Monterey Rd, Gilroy, CA 95020	0.65
Creative Play Learning Center	95 4th St, Gilroy, CA 95020	0.69
Neil Reza MD	7872 Eigleberry St, Gilroy, CA 95020	0.69
Concentra Urgent Care	190 Leavesley Rd Suite 102, Gilroy, CA 95020	0.71
Gavilan Foot Care Center	80 5th St, Gilroy, CA 95020	0.73
St. Mary's School	7900 Church Street, Gilroy, CA 95020	0.75
Hunny Bunny Daycare	7361 Eigleberry St, Gilroy, CA 95020	0.79
Chamberlain's Mental Health	8352 Church St # C, Gilroy, CA 95020	0.84
Forget Me Not Child Care	7661 Rosanna St, Gilroy, CA 95020	0.87
South County Pain & Rehabilitation	7091 Monterey St Ste A, Gilroy, CA 95020	0.89
South Valley Imaging Center	8359 Church St, Gilroy, CA 95020	0.93
Footsteps Preschool	8335 Church St, Gilroy, CA 95020	0.93
Brownell Academy Middle School	7800 Carmel St, Gilroy, CA 95020	0.99
Santa Clara County Family Resources	8833 Monterey Rd STE G, Gilroy, CA 95020	1.07
Wheeler Manor	651 W 6th St # 3, Gilroy, CA 95020	1.14
Glen View Elementary School	600 W 8th St, Gilroy, CA 95020	1.15
Ms.Sally's Home Day Care and Preschool	7941 Princevalle St, Gilroy, CA 95020	1.16
Community Solutions	9015 Murray Avenue, #100, Gilroy, CA 95020	1.17
Gilroy Medical Pharmacy	700 W 6th St G, Gilroy, CA 95020	1.2
Tiny Tots Preschool & Daycare	8985 Monterey Rd, Gilroy, CA 95020	1.24
Mimi's Place Home Day Care	7390 Orchard Dr, Gilroy, CA 95020	1.27
Evelia Daycare	7380 Orchard Dr, Gilroy, CA 95020	1.27
Allergy & Asthma Associates of Northern California	9360 No Name Uno #250, Gilroy, CA 95020	1.28
A Woman For Women Medical Group Inc.	9360 No Name Uno #260, Gilroy, CA 95020	
Ellis Eye & Laser Medical Center	9360 No Name Uno Suite 210, Gilroy, CA 95020	
Mittal Family Healthcare, Inc.	9360 No Name Uno #240, Gilroy, CA 95020	
California Vascular & Vein Center	9360 No Name Uno Rd, #110, Gilroy, CA 95020	
Clever Kidz Home Daycare	295 London Dr, Gilroy, CA 95020	1.29
ABC daycare	8401 Wayland Ln, Gilroy, CA 95020	1.29

Table 4.3-5: Sensitive Receptors near the Project Area		
Name of Sensitive Receptor	**Address of Sensitive Receptor**	**Distance from Property Boundary to Sensitive Receptor [miles]**
Gamboa Lawrence S MD	10 Canterbury Pl, Gilroy, CA 95020	1.31
Gilroy Elderly Care Home	415 London Dr, Gilroy, CA 95020	1.33
Jemel's Home Care Services	298 Churchill Pl, Gilroy, CA 95020	1.35
Miriam House	318 Churchill Pl, Gilroy, CA 95020	1.36
St. Louise Regional Hospital	9400 No Name Uno, Gilroy, CA 95020	1.38
Gilroy Family Medical Group	9460 No Name Uno #115, Gilroy, CA 95020	1.44
Foothill Community Health Center	9460 No Name Uno, #110 & #215, Gilroy CA 95020	
We Care Health Center	7880 Wren Ave # C133, Gilroy, CA 95020	1.44
Community Internal Medicine	7880 Wren Ave # D143, Gilroy, CA 95020	
One World Preschool	8387 Wren Ave, Gilroy, CA 95020	1.46
El Roble Elementary School	930 3rd St, Gilroy, CA 95020	1.48
Little Star Daycare	759 Gary St, Gilroy, CA 95020	1.48
CareMore Medical Group	7888 Wren Ave C-131, Gilroy, CA 95020	1.48
CJ's Make A Wish Day Care	6440 Hastings Pl, Gilroy, CA 95020	1.49
Dominique M. Ly, FNP	7933 Wren Ave suite d, Gilroy, CA 95020	1.5
Little Angels daycare	6121 Hyde Park Dr, Gilroy, CA 95020	1.52
Gilroy High School	750 W 10th St, Gilroy, CA 95020	1.52
Castle Care Facility	9061 Wren Ave, Gilroy, CA 95020	1.54
Playland Child Development Center	7272 Carr Pl, Gilroy, CA 95020	1.55
Terri's Learning Tree Preschool	890 Dearborn Pl, Gilroy, CA 95020	1.56
Little Blue Star Daycare	826 Mantelli Dr, Gilroy, CA 95020	1.71
Kays Kids Daycare & Preschool	8345 Kern Ave, Gilroy, CA 95020	1.72
Rod Kelley Elementary School	8755 Kern Ave, Gilroy, CA 95020	1.76
Sandra's daycare	1029 Welburn Ave, Gilroy, CA 95020	1.80
Mt Madonna High School	8750 Hirasaki Ct, Gilroy, CA 95020	1.89
Anaya's Daycare	955 Brook Way, Gilroy, CA 95020	1.91
Go Kids Inc	902 Arizona Cir, Gilroy, CA 95020	1.94
Las Animas Elementary	6550 Cimino St, Gilroy, CA 95020	1.97
Nearest Residential Areas		
Northwest Residences		0.17 – 0.36
West Residences		0.30
Southwest Residences		0.19 – 0.23
Southeast Residences		0.21

4.3.2 Existing Policies and Regulations

Established federal, state, and regional regulations provide the framework for analyzing and controlling air pollutant emissions and thus general air quality. The U.S. EPA is responsible for implementing the programs established under the federal Clean Air Act, such as establishing and reviewing the federal ambient air quality standards and judging the adequacy of State Implementation Plans (SIPs), described further below. However, the U.S. EPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. In California, CARB is responsible for establishing and reviewing the state ambient air quality standards, developing and managing the California SIP, securing approval of this plan from the U.S. EPA, and identifying toxic air contaminants (TACs). CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality

management districts (AQMDs), which are organized at the county or regional level. An AQMD is primarily responsible for regulating stationary emissions sources at facilities within its geographic areas and for preparing the air quality plans that are required under the federal Clean Air Act and 1988 California Clean Air Act. The BAAQMD is the regional agency with regulatory authority over emission sources in the nine-county San Francisco Bay Area.

4.3.2.1 *Federal Regulatory Authority*

The U.S. EPA has responsibility for enforcing, on a national basis, the requirements of many of the country's environmental laws. Region 9 is responsible for the local administration of U.S. EPA programs for California, Arizona, Nevada, Hawaii, and certain Pacific trust territories. California is under the jurisdiction of U.S. EPA Region 9, which has its offices in San Francisco. The U.S. EPA's activities, relative to the California air pollution control program, focus principally on reviewing California's submittals for the SIP. The SIP is required by the federal Clean Air Act to demonstrate how all areas of the state will meet the NAAQS within the federally specified deadlines.

The Federal Clean Air Act (CAA) establishes a federal requirement for the U.S. EPA to develop and adopt air quality standards, the NAAQS (see Table 4.3-1), and specifies future dates for achieving air quality compliance. The CAA further mandates that states submit and implement SIPs for those areas not meeting these standards. The SIPs must include air pollution control measures that demonstrate how the NAAQS will be met. The 1990 amendment to the CAA requires that areas not meeting NAAQS demonstrate reasonable further progress toward attainment and incorporate sanctions for failure to attain or meet specific attainment milestones. Each state is required to adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state. CARB is responsible for incorporating AQMPs for local air basins into a SIP, which is then reviewed and approved by the U.S. EPA.

In addition to requiring the establishment of NAAQS and the development and maintenance of SIPs, the CAA authorizes the U.S. EPA to establish regulations on certain categories of stationary sources of air pollution.

Specifically, Section 111 of the CAA authorizes the U.S. EPA to establish standards of performance for new and existing sources, commonly referred to as New Source Performance Standards (NSPSs). NSPS Subpart IIII establishes emission standards, fuel requirements, testing requirements, and other compliance requirements for manufacturers, owners, and operators of stationary compression ignition internal combustion engines.

The generators are subject to Subpart IIII. Per 40 CFR §60.4205(b) and §60.4202, emergency compression ignition (CI) engines rated between 50 bhp and 3,000 bhp are subject to the emissions standards in 40 CFR §89.112, Table 1, as follows. Further, emergency CI engines rated above 3,000 bhp that are not fire pump engines are subject to the same emission standards, as follows:

- NO_x+NMHC: 6.4 g/kw-hr (4.8 g/bhp-hr)
- CO: 3.5 g/kw-hr (2.6 g/bhp-hr)
- PM: 0.20 g/kw-hr (0.15 g/bhp-hr)

Using the recommended BAAQMD procedure for separating the NO_x+NMHC value, the applicable standard for NO_x would be 4.56 g/bhp-hr, and the applicable standard for NMHC (ROG) would be 0.24 g/bhp-hr (BAAQMD, 2004).[12]

The proposed critical backup generators and life safety generators will satisfy these requirements based upon EPA engine family certification levels supplied by the manufacturer. In addition, the proposed generators will utilize a diesel particulate filter which will reduce the PM emissions down to 0.0135 g/bhp-hr for the critical backup generators and 0.0123 g/bhp-hr for the life safety generators.

Similarly, Section 112 of the CAA authorizes the U.S. EPA to establish emission standards for listed hazard air pollutants, commonly referred to as National Emission Standards for Hazardous Air Pollutants (NESHAPs). NESHAP Subpart ZZZZ establishes national emission and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines located at major and area sources of HAP emissions. The proposed generators meet the requirements of NESHAP Subpart ZZZZ through compliance with NSPS Subpart IIII per 40 CFR §63.6590(c)(1).

The U.S. EPA also has jurisdiction over emissions from non-stationary sources that are under the authority of the federal government, including aircraft, locomotives, and emissions sources outside state waters. The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements set by CARB.

4.3.2.2 *State of California Regulatory Authority*

CARB is responsible for ensuring implementation of the California Clean Air Act and for regulating emissions from consumer products and motor vehicles. The California Clean Air Act mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain CAAQS by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS. Additional standards for sulfates, visibility-reducing particles, H_2S, and vinyl chloride have been established; however, they are not considered to be a regional air quality problem at this time. H_2S, vinyl chloride, sulfates, and visibility-reducing particles are not measured at any monitoring stations in the Bay Area Air Basin. Generally, the CAAQS are equal to or more stringent than the NAAQS.

CARB also implements the ATCM for Stationary Compression Ignition Engines (Stationary CI Engine ATCM) under Title 17 of California Code of Regulations (CCR) Section 93115. The generators are considered new .50 bhp emergency standby diesel-fueled CI engines and would comply with the ATCM by firing ultra-low sulfur diesel, maintaining a Tier 2 or Tier 3 engine certification to meet emission standards, operating with a non-resettable hour meter, and operating no more than 50 hours per year for maintenance and testing purposes.

[12] Assume a breakdown of 5% NMHC and 95% NO_x.

4.3.2.3 *Regional Regulatory Authority*

The Clean Air Act requires that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards specified in the Clean Air Act. The California Clean Air Act also requires the development of air quality plans and strategies to meet state air quality standards in areas designated as nonattainment (with the exception of areas designated as nonattainment for the state PM standards). Maintenance plans are required for attainment areas that had previously been designated nonattainment in order to ensure continued attainment of the standards.

For air quality planning purposes, the Bay Area Air Basin is classified as a nonattainment area for O_3 and $PM_{2.5}$. BAAQMD is required to update its Clean Air Plan to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The Bay Area's record of progress in implementing previous measures must also be reviewed. Bay Area plans are prepared with the cooperation of the Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG). On April 19, 2017, the BAAQMD adopted the most recent revision to the Clean Air Plan - the *BAAQMD 2017 Clean Air Plan: Spare the Air, Cool the Climate* (BAAQMD, 2017a) (2017 Clean Air Plan). The 2017 Clean Air Plan serves to:

- Describe a comprehensive control strategy to protect public health and the climate;
- Update the *Bay Area 2010 Clean Air Plan* in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce emissions of O_3 precursors and to reduce transport of O_3 and its precursors to neighboring air basins;
- Enhance efforts to reduce emissions of particulate matter and toxic air contaminants; and
- Lay the groundwork for a long-term effort to reduce GHG emissions in the Bay Area Air Basin.

4.3.2.4 *Local Regulatory Authority*

BAAQMD Rules and Regulations

The BAAQMD is the regional agency responsible for rulemaking, permitting, and enforcement activities affecting stationary sources of air pollutant emissions in the Bay Area Air Basin. Specific rules and regulations adopted by the BAAQMD limit the emissions that can be generated by various activities and identify specific pollution reduction measures that must be implemented in association with these activities. These rules regulate not only emissions of the six criteria air pollutants, but also toxic emissions and acutely hazardous non-radioactive materials emissions.

Emissions sources subject to these rules are regulated through the BAAQMD's permitting process and standards of operation. Through this permitting process, including an annual permit review, the BAAQMD monitors generation of stationary emissions and uses this information in developing its air quality plans. Any sources of stationary emissions constructed as part of a project within BAAQMD's jurisdiction are subject to the BAAQMD Rules and Regulations. Both federal and state O_3 plans rely upon stationary source control measures set forth in BAAQMD's Rules and Regulations.

BAAQMD Regulation 2 Rule 2 – New Source Review (NSR) 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 Best Available Control Technology (BACT) is required. Per the BACT requirements for CI Stationary Emergency engines rated at greater than 50 bhp (BAAQMD, 2010), the following emission limits are BACT for the proposed generators:

- PM: 0.15 g/bhp-hr
- NMHC+NO_x: 4.8 g/bhp-hr
- CO: 2.6 g/bhp-hr
- SO_2: fuel sulfur content not to exceed 15 ppmw

Using the recommended CARB procedure for separating the NO_x+NMHC value, the applicable standard for NO_x would be 4.56 g/bhp-hr, and the applicable standard for NMHC (ROG) would be 0.24 g/bhp-hr.

Both the critical backup generators and the life safety generators proposed for the project meet these emission limits, so BACT is satisfied. In addition, the proposed generators will utilize a diesel particulate filter which will reduce the PM emissions down to 0.0135 g/bhp-hr for the critical backup generators and 0.0123 g/bhp-hr for the life safety generators.

BAAQMD Rule 2-2-302, Offset Requirements, Precursor Organic Compounds and Nitrogen Oxides, and Rule 2-2-303, Offset Requirements, $PM_{2.5}$, PM_{10}, and Sulfur Dioxide, require offsets of emissions from new or modified sources of precursor organic compounds (POC), NO_x, $PM_{2.5,}$ PM_{10}, and SO_2. Offsets are required for facilities that have a Potential to Emit (PTE) of more than ten tons per year of POC or NO_x, or more than 100 tons per year of $PM_{2.5}$, PM_{10}, or SO_2. Per BAAQMD policy "Calculation Potential to Emit for Emergency Backup Power to Generators," published on June 3, 2019, once offset applicability has been determined using proposed non-emergency operation hours (i.e. 50 hours per year) and 100 hours of emergency use per year, the amount of offsets required is calculated using only non-emergency operation hours. As such, 50 hours per year for testing and maintenance operations is used to determine the amount of offsets require. The Facility's NOx PTE at full build-out would be greater than 35 tons per year, and as such, the Applicant would provide BAAQMD with NOx offsets prior to the issuance of the Facility's PTO. The exact amount of offsets to be provided would be determined during BAAQMDs' permitting process.

BAAQMD Rule 2-5 applies to new or modified sources of TACs for which an application is submitted on or after July 1, 2005. All TAC emissions from new and modified sources are subject to a health risk assessment (HRA) if emissions of any individual TAC exceed the trigger thresholds specified in Table 2-5-1 of Rule 2-5. The project is a source of DPM, a TAC which has a chronic trigger level of 0.26 pounds per year. If a project's DPM PTE is greater than the chronic trigger level limit, the project is subject to the risk assessment requirements of Rule 2-5. Rule 2-5 requires Best Available Control Technology for Toxics (TBACT) for any new or modified source of TACs with a cancer risk greater than 1.0 in one million or a chronic hazard index greater than 0.20. According to the BAAQMD BACT/TBACT Workbook Document Number 96.1.2, TBACT is an engine certified to meet the PM10 emission limit of 0.15 g/bhp-hr. The proposed generators would be certified Tier 2 or higher engines and would meet the TBACT requirements of Rule 2-5. Rule 2-5 also requires that a

project risk does not exceed a cancer risk of 10.0 in one million, a chronic hazard index of 1.0, or an acute hazard index of 1.0, consistent with BAAQMD's CEQA significance thresholds.

BAAQMD Rule 2-6, Major Facility Review, implements permitting requirements of Title V of the Clean Air Act, and is applicable to major facilities and other facilities designated as requiring a Title V permit. Per Section 2-6-212, a major facility has the potential to emit 100 tons per year or more of any regulated air pollutant, 10 tons per year or more of a single hazardous air pollutant, or 25 tons per year or more of a combination of HAPs. Alternatively, a facility may elect to implement enforceable permit conditions such that its PTA is limited to below the major facility thresholds, in which case the facility is considered a synthetic minor facility. The applicability of Rule 2-6 would be evaluated during BAAQMD's permitting process.

BAAQMD Rule 9-8, Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines, limits emissions and operating hours and outlines recordkeeping requirements for emergency engines rated greater than 50 bhp.

Gilroy General Plan

In connection with the implementation of BAAQMD's 2017 CAP, various policies in the General Plan have been adopted for the purpose of avoiding or mitigating air quality impacts from development projects. The proposed project would be subject to the air quality policies listed in the General Plan, including the following:

Policy	Description
M 5.3	**Promote Non-Auto Modes of Transportation.** Consider offering incentives as part of a multimodal system approach, for projects that incorporate travel demand management techniques and promote transit ridership, biking, and walking in order to reduce air pollution, energy consumption, and greenhouse gas emissions.
EP 1.1	**Local Hiring.** Promote local hiring, including youth employment and paid internships, to increase community ownership and resident retention, help achieve a more positive jobs to employed resident ratio, and reduce regional commuting, gas consumption, and air pollution.
NCR 3.15	**Reduce Construction Emissions.** Require the use of low emissions construction equipment for public and private projects, consistent with the air district 2017 Clean Air Plan. Where construction-related emissions would exceed the applicable Thresholds of Significance, the City will consider, on a case-by-case basis, implementing Additional Construction Mitigation Measures (Table 8-3 in BAAQMD's CEQA Guidelines)
NCR 3.16	**Implement Dust-Control Measures** Require the implementation of the air district's dust control measures during construction of individual projects, consistent with the air district 2017 Clean Air Plan.

4.3.2.5 *Regulatory Authority for Odors and Nuisances*

Although offensive odors from stationary sources rarely cause any physical harm, they remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the distance from and sensitivity of receptors. The BAAQMD's CEQA Air Quality Guidelines recommend that odor impacts be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources (BAAQMD, 2017b).

4.3.2.6 *Toxic Air Contaminants Regulations – Air Quality*

TACs are regulated under both state and federal laws. Federal laws use the term "Hazardous Air Pollutants" (HAPs) to refer to similar types of compounds that are referred to as TACs under state law, however there are some differences between HAPs and TACs. Both terms encompass essentially the same compounds. Under the 1990 Clean Air Act Amendments, 189 substances were regulated as HAPs. Since 1990, the U.S. EPA has modified the list through rulemaking to include 187 HAPs.

AB 2588. With respect to state law, in 1983 the California legislature adopted AB 1807, which establishes a process for identifying TACs and provides the authority for developing retrofit air toxics control measures on a statewide basis. Air toxics in California also may be regulated under the Air Toxics "Hot Spots" Information and Assessment Act of 1987, or AB 2588.

Under AB 2588, TACs from individual facilities must be quantified and reported to the local air pollution control agency or air quality management district. The facilities are then prioritized by the local agencies based on the quantity and toxicity of these emissions, and on their proximity to areas where the public may be exposed. In establishing priorities, the air districts are to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility; the proximity of the facility to potential receptors; and any other factors that the air district determines may indicate that the facility may pose a significant risk. High priority facilities are required to perform a Health Risk Assessment (HRA), and, if specific risk thresholds are exceeded, they are required to communicate the results to the public through notices and public meetings. Depending on the health risk levels, emitting facilities can be required to implement varying levels of risk reduction measures. CARB identified approximately 200 TACs, including the 187 federal HAPs, under AB 2588.

AB 617. In July 2017, AB 617 was approved by the Governor. AB617 aims to reduce criteria pollutant and toxic air contaminant emissions within the state of California. The bill presents four main elements in order to achieve this goal:

- Monitoring
    - Identification and recommendation of communities that have a high cumulative exposure burden
    - Establishment of a statewide monitoring plan
    - Set-up and operation of District and Community networks including public availability/presentation of statewide data
- Community Emission Reduction Plans

    - For identified communities and integration with the statewide strategy for AB617 implementation
    - Potentially resulting in development of District Community Emission Reduction Plans
    - Potentially resulting in development of state and District emission reduction strategies
- Best Available Retrofit Control Technology (BARCT)
    - Development of a Statewide BACT/BARCT clearinghouse
    - BARCT implementation and the adoption of an expedited timeline for select source categories
- Emission Reporting
    - Development of a Uniform Statewide Reporting platform
    - Establishment of a statewide pollution mapping tool

BAAQMD is responsible for administering federal and state regulations related to TACs in the Bay Area Air Basin. Under federal law, these regulations include NESHAPs and Maximum Achievable Control Technology (MACT) for affected sources. BAAQMD also administers the state regulations AB 1807 and AB 2588, which were discussed above. In addition, the agency requires that new or modified facilities that emit TACs perform air toxics screening analyses as part of the permit application. TAC emissions from new and modified sources are limited through the air toxics new source review program, which superseded the BAAQMD Risk Management Policy, in BAAQMD Regulation 2, Rule 5 for New Source Review of Toxic Air Contaminants. Sources must use the Best Available Control Technology for Toxics (TBACT) if health risk modeling identifies an individual source cancer risk of greater than 1 in a million or a chronic hazard index greater than 0.20. Specific TAC regulations and considerations relevant to the project are described below.

Diesel Exhaust Control Program. In August 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter [DPM]) as TACs. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* and the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* (CARB, 2000a and 2000b). The goal of these programs is to reduce DPM emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020 and to implement regulations that include increasingly stringent emissions standards for on-road diesel trucks and buses, off-road diesel vehicles and equipment, and stationary diesel engines.

In 2001, the U.S. EPA promulgated regulations 40 CFR Parts 69, 80, and 86 (U.S. EPA, 2001b) requiring that the sulfur content in motor on-road vehicle diesel fuel be reduced to less than 15 ppm as of June 1, 2006. The U.S. EPA also finalized a comprehensive national emissions control program, the 2007 Heavy-duty Highway Diesel Program (also known as the HD 2007 Program), which regulates highway heavy-duty vehicles and diesel fuel as a single system. Under the HD 2007 program, the U.S. EPA established new emission standards that would significantly reduce PM and NO_X from highway heavy-duty vehicles by the time the current heavy-duty vehicle fleet has been completely replaced in 2030.

The U.S. EPA also promulgated new emission standards for nonroad diesel engines and sulfur reductions in nonroad diesel fuel that would dramatically reduce emissions attributed to nonroad

diesel engines. Similar but more stringent standards have been established by CARB. This affects emissions from construction equipment, locomotives, and marine diesel equipment and vehicles. The general objective is to reduce PM emissions from diesel vehicles to levels of below 0.01 grams per brake horsepower-hour (g/bhp-hr) beginning with 2007 model year engines.

4.3.3 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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?	☐	☐	☒	☐
City of Gilroy Adopted CEQA Thresholds				
5) Conflict with the 2017 Bay Area Air Quality Management District Clean Air Plan (BAAQMD CAP)?	☐	☒	☐	☐
6) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? BAAQMD indicates that any project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.	☐	☒	☐	☐

Impacts from the Project

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for judgment on the part of the lead agency and must be based to the extent possible on scientific and factual data. The City of Gilroy has considered the air quality thresholds updated by BAAQMD in May 2017 and regards these thresholds to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and $PM_{2.5}$. The BAAQMD CEQA Air Quality thresholds used in this analysis are identified in Table 4.3-5 below.

Table 4.3-5: BAAQMD Air Quality Significance Thresholds			
Pollutant	**Construction Thresholds**	**Operation Thresholds**	
	Average Daily Emissions (pounds/day)	**Annual Daily Emissions (pounds/year)**	**Annual Average Emissions (tons/year)**
Criteria Air Pollutants			
ROG, NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
CO	Not Applicable	9.0 ppm (eight-hour) or 20.0 ppm (one-hour)	
Fugitive Dust	Dust Control Measures/Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources (within a 1,000-foot Zone of Influence)			
Health Hazard	**Single Source**	**Combined Cumulative Sources**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental Annual $PM_{2.5}$	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$ (average)	

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

Construction Emissions

The project would involve two phases that include construction activities. Construction emissions from the construction of the GDC would result from ground preparation, grading activities, building erection, parking lot construction activities, use of onsite construction equipment, and architectural coating. Construction emissions from the GBGF are included in the GDC construction emission calculations. GBGF offsite construction emissions would result primarily from material transport to and from the site, material placement in the generation yard, and worker travel.

As shown in Table 4.3-6, predicted construction period emissions for the project would not exceed the BAAQMD significance thresholds. Construction activities, particularly site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are

implemented to reduce these emissions. The project applicant shall incorporate PD AIR-1 (see Section 4.3.3.1) into the project design.

The standard permit conditions listed above are consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter. Therefore, project construction 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)**

Operational Emissions

Operational air emissions from the project would be generated primarily from operation of the 53 generators for routine non-emergency testing and maintenance purposes, mobile sources such as employee vehicles, and general operation of the GDC building.

For the purposes of comparison to the BAAQMD maximum annual emission threshold of significance, the project emission calculations assume 50 hours per year per generator for non-emergency operation testing and maintenance operation per Title 17, CCR Section 93115.6(a)(3)(A)(1)(c): ATCM for Stationary CI Engines. For purposes of comparison to the BAAQMD average daily emission thresholds of significance, project emission calculations conservatively assume 24 hours per day for all critical backup generators combined, 24 hours per day for all life safety generators combined, and 24 hours per day for the security building generator. There are no scenarios such that routine testing or maintenance for an individual generator would require 24 hours of operation in a single day, however, the analysis conservatively assumed it is possible that a combination of critical backup generators may be run for up to 24 combined hours in one day for maximum potential daily emission.

Table 4.3-7 (See Section 4.3.3.1) provides a summary of the predicted operation period emissions from the project, summarizing estimated hourly, daily, and annual emissions for the operational emissions associated with the project. The emissions associated with the project would not exceed applicable significance thresholds and would result in less than significant operational impacts, except for daily and annual NO_x emissions. The project would incorporate project design measures PD AIR-2 and PD AIR-3 (see Section 4.3.3.1) to reduce NO_x impacts to a less than significant level.

The project would comply with all applicable rules and regulations of the BAAQMD regarding emissions of criteria pollutants and toxic pollutants. The proposed engines at the GBGF would comply with the applicable federal Tier 2 emissions standards for emergency standby electrical generation CI engines. The GBGF would comply with all applicable provisions of the applicable 2017 BAAQMD Air Quality Implementation Plan. The GBGF would obtain and maintain all required air quality related permits from the BAAQMD, and requirements imposed by the California Energy Commission. Therefore, the proposed project would not conflict with or have any adverse impact on implementation of the 2017 Bay Area Clean Air Plan nor would the proposed project disrupt or hinder implementation of any plan control measures. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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 with Mitigation Incorporated into the Project Design)**

As shown in Table 4.3-7, the emissions associated with the project would result in a net emissions increase for PM_{10}, $PM_{2.5}$, CO, NO_x, SO_x, and ROG on a daily and annual basis. The project region is nonattainment for $PM_{2.5}$ and 8-hour O_3. All net emissions increased of PM_{10}, $PM_{2.5}$, CO, SO_x, and ROG would be below the BAAQMD CEQA thresholds of significance. The net emissions increase of NO_x from operational emissions would be above the BAAQMD significance threshold, but below the CAAQS and NAAQS with implementation of Project Design Measures PD AIR-1.1 and PD AIR-1.2. NO_x emissions from routine operation of the 53 generators would be mitigated through procurement of NO_x emission offsets. NO_x emissions from construction impacts would be reduced through implementation of standard permit conditions.

The concentration of PM_{10} would be above the 24-hour and annual CAAQS when cumulated with background concentration data available from BAAQMD ambient air monitors (see Appendix C). However, the concentration of PM_{10} resulting from the project alone would be significantly below the CAAQS and below the applicable significant impact level. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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

The primary air toxic source associated with the project would be DPM from the operation of the 53 proposed generators. The health risk assessment demonstrated the highest cancer, chronic, and acute risks as a result of the project would be below BAAQMD's thresholds of significance for risks and hazards. Cumulative health risk impacts were assessed for all sources within 1,000 feet of the project boundary (per BAAQMD CEQA Air Quality Guidelines) and are below the BAAQMD CEQA threshold of significance for cumulative health risk impacts. Further, the project would result in an ambient $PM_{2.5}$ increase of 0.039 $\mu g/m^3$ which is well below the significance threshold of 0.3 $\mu g/m^3$ and is therefore considered to be a less than significant impact. Additionally, cumulative impacts of $PM_{2.5}$ are also below the cumulative threshold of significance of 0.8 $\mu g/m^3$. **(Less than Significant Impact)**

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 proposed project would not involve the development of the types of land uses that would result in emissions that are typically associated with odor issues, such as wastewater (sewage) treatment plants, landfills, composting facilities, refineries, or chemical plants. Nor would the project locate sensitive receptors within proximity of these types of odor-producing sources. Therefore, the proposed Project would not result in impacts associated with odor. **(Less than Significant Impact)**

Impact AIR-5:	The project would not conflict with the Bay Area Air Quality Management District Clean Air Plan (CAP) **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

2017 CAP Control Measures

The most recent clean air plan is the 2017 CAP. Because project emissions would be below the BAAQMD impact thresholds with mitigation incorporated, as discussed under Impact AIR-1, the project would not be conflict with the BAAQMD 2017 CAP. Further, implementation of the project would not inhibit BAAQMD or partner agencies from continuing progress toward attaining state and federal air quality standards and eliminating health-risk disparities from exposure to air pollution among Bay Area communities, as described within the 2017 CAP. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

Impact AIR-6:	The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

As discussed under Impact AIR-1 through AIR-4, the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

4.3.3.1 *Project Emissions, Air Quality Impact Analysis, and Health Risk Assessment*

Project Construction Emissions

The project would involve two phases that include construction activities. Construction emissions from the construction of the GDC would result from ground preparation, grading activities, building erection, parking lot construction activities, use of onsite construction equipment, and architectural coating. Construction emissions from the GBGF are included in the GDC construction emission calculations. GBGF offsite construction emissions would result primarily from material transport to and from the site, material placement in the generation yard, and worker travel.

Construction of Phase I to support the first GDC Building is anticipated to begin in April 2021 or May 2021 and take 11 months for exterior construction and approximately 25 months for additional interior construction. Construction of Phase II is conservatively assumed to occur immediately following the completion of the first generation yard and to take approximately 10 months. Additional Phase II interior construction activities are expected to take 30 months following exterior construction. This assumption calculates conservative construction emissions as construction equipment emission profiles improve over time. Construction emissions are computed using CalEEMod, Version 2016.3.2, The construction schedule and projected equipment usage were provided as inputs for the model.

Table 4.3-6 provides a summary of the predicted construction period emissions from the project, summarizing estimated hourly, daily, and annual emissions for the operational emissions associated with the project.

Table 4.3-6: Construction Period Emissions									
Activity	**Pollutant**								
	Fugitive PM_{10}	**Fugitive $PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**NOx**	**ROG/ VOC**	**SO_2**	**CO_2e**
	Pounds per Day (lb/day)								
Construction Emissions	4.50	1.43	5.95	3.27	80.0	52.6	47.9	0.17	For this analysis and comparison to thresholds, GHG emissions are calculated on an annual basis only
BAAQMD Thresholds	N/A	N/A	82	54	N/A	54	54	N/A	
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	
Activity	**Tons per year (tpy)**								**Metric Tons per Year (MT/yr)**
Construction Emissions	0.59	0.19	0.77	0.43	10.4	6.84	6.22	0.02	1,976
BAAQMD Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

A. CO is evaluated in this report based on screening criteria identified in Table 4.3-2 for local CO.
B. The applicant will provide offsets at the ratio required per BAAQMD Rule 2-2-302.

Mitigation Incorporated into the Project Design:

PD AIR-1: The project will implement the following measures during construction.

Basic Measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Exhaust Control Measures:

The following measures shall be implemented such that the off-road equipment to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) shall meet the emissions values as summarized in Table 4.3-6. Acceptable methods for reducing emissions include the 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.

- The following construction equipment used at the site during Phase I and Phase II construction shall be electric:
    - Pressure washer
    - Welder
- The following construction equipment used at the site during Phase I and Phase II shall meet U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 2 verifiable diesel emission control devices that altogether achieve a 85 percent reduction in particulate matter exhaust:
    - Air compressors
    - Concrete/individual saws
    - Forklifts
    - Generator sets
    - Other construction equipment, such as concrete vibrators
    - Pavers
    - Pumps
    - Rollers
    - Sweepers/scrubbers
    - Tractors/loaders/backhoes
- The following construction equipment used at the site during Phase I shall meet U.S. EPA Tier 4 final emission standards according to one of the following options:
    - Option 1: Cranes, graders, rubber tired dozers, tractors/loaders/backhoes
    - Option 2: Cranes, graders, rubber tired dozers, bore/drill rigs
    - Option 3: Cranes, graders, rubber tired dozers, excavators
- The following construction equipment used at the site during Phase II shall meet U.S. EPA Tier 4 final emissions standards:
    - Cranes
    - Scrapers

Operational Emissions Calculation Methodology

This section discusses methods used for calculating emissions associated with the proposed project operations. An overview is provided below and details for each emission source are provided in Table 4.3-7 and Table 4.3-8.

Proposed Project Overview. Operational air pollutant and GHG emissions are those that result from operation of the 53 generators for non-emergency testing and maintenance purposes, mobile sources such as employee vehicles, and general operation of the GDC buildings.

For the purposes of comparison to the BAAQMD maximum annual emission thresholds of significance, the project emission calculations assume 50 hours per year per generator for non-emergency operation testing and maintenance operation per Title 17, CCR Section 93115.6(a)(3)(A)(1)(c): ATCM for Stationary CI Engines. For purposes of comparison to the BAAQMD average daily emission thresholds of significance, project emission calculations assume 24 hours per day for all critical backup generators combined, 24 hours per day for all life safety generators combined, and 24 hours per day for the security building generator.

Generator Emissions. The calculation methods utilize for estimating the proposed project operational emissions are explained in detail in the following paragraphs. Emission factors and calculation methods used to quantify emissions from the proposed project are based on facility information and data available from generally accepted public sources.

In the proposed project, the GBGF is equipped with 50 critical backup generators, two life safety generators, and one security building generator. The applicant proposes to limit operation to one generator at a time for routine maintenance and testing activities conducted pursuant to manufacturer specifications. Generator operation for emergency use and emission testing for compliance purposes is not limited (BAAQMD, 2019e). The emission calculations are based on the generator engine horsepower, hours of operation, and EPA family emission factors. The critical generators and life safety generators would be equipped with a diesel particulate filter (DPF), for which a control efficiency of 85% is assumed per CARB Executive Order DE-07-001-07. Per this executive order, CARB states that a diesel particulate filter efficiency of 85% can be applied to emergency standby engines for approved engine models. The DPF for the critical backup generator model and life safety generator model is verified by CARB for model years 1996 through 2019 under Executive Order DE-07-001-07 to reduce emissions of diesel particulate matter by 85% or more (CARB, 2019a). Per correspondence with CARB, it is expected that the DPF would be verified for model year 2020 generators in the forthcoming updated Executive Order.[13] The Executive Order specifically notes the DPF is designed for standby engines, which typically operate at various loads. Furthermore, the Executive Order notes that duty cycles of the standby engines which are approved under the Executive Order are reviewed to ensure compatibility DPF, meaning that the DPF is compatible at all duty loads. The CARB Executive Order and email correspondence with CARB is provided in Appendix C.

[13] Email correspondence. John Lee (CARB) and McKay Quinn (Trinity Consultants). September 16, 2020.

Emission factors for PM, NO_x, ROG and CO are provided by the EPA engine family certification levels (U.S. EPA, 2020c). The emission factors for sulfur dioxide (SO_2) are calculated with the assumption that the proposed generators would use ultra-low sulfur diesel fuel which contains 0.0015% sulfur as defined under 40 CFR 80, Subpart I. Per this assumption, the SO_2 emission factor from AP-42 Section 3.4, Table 3.4-1 applies.

Mobile and Building Operation Emissions. Emissions from mobile sources and general operation of the GDC buildings are calculated using the CalEEMod. Once Phase I and Phase II are complete, it is conservatively assumed that the project would generate approximately 150 round trips daily to the GDC encompassing employee and visitor trips. Additionally, the GDC would generate building operational emissions from the use of consumer products, architectural coating, landscaping work, energy usage, solid waste disposal, and water usage. CalEEMod output files are included in Appendix A-4 of Appendix C. The project would use low VOC cleaning supplies as a design feature to reduce the operational emissions from the use of consumer products.

Project Operational Emissions

Table 4.3-7 summarizes estimated hourly, daily and annual emissions for the operational emissions associated with the proposed project. The hourly emissions are separated by generator type. The daily and annual emissions account for the maximum daily and annual hours of operation, respectively, per generator type and then combine these into a total value. The detailed calculations are provided in Appendix A-3 of Appendix C. It is expected that the daily and annual operational emissions in Table 4.3-7 and Table 4.3-8 encompass emissions from start-up and shutdown conditions, however the manufacturer does not provide speciated emission profiles for specific start-up and shutdown conditions.

Table 4.3-7: Project Operational Emissions

Pollutant	Hourly Emissions			Daily Emissions	Annual Emissions
	Critical Backup Generators	Life Safety Generators	Security Building Generator	All Generators	All Generators
	Pounds per Hour	Pounds per Hour	Pounds per Hour	Pounds per Day	Tons per Year
$PM/PM_{10}/PM_{2.5}$	0.11	0.02	0.06	4.49	0.14
NO_X	30.3	8.36	1.69	968	38.3
ROG/VOC	1.55	0.16	0.04	42.1	1.95
CO	5.38	1.18	0.51	170	6.79
SO_2	0.044	0.011	0.01	1.58	0.06

Table 4.3-8: Project Operational Emissions Summary and Comparison to Significance Thresholds							
Activity	**Pollutant**						
	PM_{10}	**$PM_{2.5}$**	**CO**	**NOx**	**ROG/VOC**	**SO_2**	**CO_2e**
	Pounds per Day (lb/day)						
Generator Operational Emissions	4.49	4.49	170	968	42.1	1.58	For this analysis and comparison to thresholds, GHG emissions are calculated on an annual basis only
Mobile and Building Operational Emissions	1.69	0.63	6.56	4.37	10.7	0.03	
Total Project Operational Emissions	6.19	5.13	176	973	52.7	1.62	
BAAQMD Thresholds	82	54	See Note A	54	54	N/A	
Exceed Thresholds?	**No**	**No**	**No**	**Yes**	**No**	**No**	
Activity	**Tons per year (tpy)**						**Metric Tons per Year (MT/yr)**
General Operational Emissions	0.14	0.14	6.79	38.3	1.95	0.06	4,506
Mobile and Building Operational Emissions	0.31	0.12	1.20	0.80	1.94	0.01	2,505
Offsets[b]	--	--	--	-38.3	--	--	--
Total Project Operational Emissions	0.45	0.25	7.99	0.80	3.89	0.06	7,011
BAAQMD Thresholds	15	10	See Note A	10	10	N/A	10,000
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

A. CO is evaluated in this report based on screening criteria identified in Table 4.3-2 for local CO.
B. The applicant will provide offsets at the ratio required per BAAQMD Rule 2-2-302.

The following should be noted with respect to Table 4.3-8 above:

- Project average daily and maximum annual NO_x emissions exceed the BAAQMD CEQA thresholds of significance prior to mitigation.
- Per the ambient air dispersion model and implementation of Mitigation PD AIR-3 discussed below, the concentration of NO_x as a result of the project is below the applicable NAAQS and CAAQS.
- The emissions of NO_x from the generators would be mitigated through procurement of NO_x emission offsets.

With regards to the threshold of significance for local CO, it should be noted that the limited level of offsite mobile source activity during project operations would not increase peak hour intersection level of service and therefore would have an immeasurable effect on local CO levels at nearby roadway intersections. This is due to the minimal number of employees and visitors at the site. Therefore, local CO emissions are determined to be less than significant and are not further assessed in other sections of this report.

BAAQMD sets an odor threshold of significance where if there are a maximum of five odor complaints per year averaged over three years it will result in significant adverse air quality impacts. The project is not considered a typical odor producing source such as a wastewater (sewage) treatment plant, landfill, composting facility, refinery, or chemical plant. As such, it is assumed that the project would not exceed the identified threshold of significance for odor.

Impacts from toxic air contaminants and comparison to the BAAQMD thresholds of significance for Risks and Hazards are discussed below.

Air Dispersion Modeling Methodology

This section presents the modeling methods used prior to evaluating potential air quality impacts and health risks associated with the proposed project. Each model incorporates the same components and inputs described below. AERMOD dispersion modeling is used in this analysis to perform a load screening analysis and comparison to AAQS standards based on the equipment associated with the project. The concentrations of pollutants from the proposed project with incorporation of background concentration data do not exceed the NAAQS or CAAQS except for PM_{10} for 24-hour and annual averaging period. This is addressed further in the discussion of ambient air dispersion model results below.

Air Dispersion Model

The air quality analysis is conducted according to U.S. EPA guidelines. The AERMOD model (version 19191) is used with Trinity Consultants' (Trinity's) *BREEZE™ AERMOD Suite* software to calculate ground-level concentrations the regulatory default parameters. All model runs for this analysis use the BREEZE-developed parallel processing executable. This executable retains all of the U.S. EPA AERMOD code, but adds code to allow AERMOD to run on multiple processor cores simultaneously, producing faster results.

Coordinate System

The locations of emission sources and receptors are represented in the Universal Transverse Mercator (UTM) coordinate system using the World Geodetic System (WGS84) projection. The UTM grid

divides the world into coordinates that are measured in north meters (measured from the equator) and east meters (measured from the central meridian of a particular zone, which is set at 500 km).

Terrain Elevations

The terrain elevation for each receptor and emission source is determined using the United States Geological Survey (USGS) 1/3 arc-second National Elevation Dataset (NED). The data, obtained from the USGS, have terrain elevations at 10-meter intervals. The terrain height for each individual modeled receptor and emission source is determined by assigning the interpolated height from the digital terrain elevations surrounding each modeled receptor or emission source.

In addition, the AERMOD terrain preprocessor, AERMAP (version 18081), is used to compute the hill height scales for each receptor. AERMAP searches all NED data points for the terrain height and location that has the greatest influence on each receptor to determine the hill height scale for that receptor. AERMOD then uses the hill height scale in order to select the correct critical dividing streamline and concentration algorithm for each receptor.

Meteorological Data

Meteorological data is provided by BAAQMD for the calendar years 2013 through 2017. Surface data is from the San Martin Airport (Station ID 23293; elevation of 85.3 meters); upper air data is from the Oakland International Airport (Station ID 23230). The closest meteorological stations are selected for surface and upper air data.

Building Downwash

Emission sources' proximity to nearby structures creates potential for downwash of the emission plume and elevated ground-level concentrations. Off-site buildings to the north and northwest of the facility fenceline are conservatively included to account for potential building downwash effects. Off-site building dimensions are estimated using Google Earth measurements. On-site building dimensions were determined from the project site plans provided in Appendix A-1 of Appendix C and generator enclosure dimensions are determined from the equipment specification in Appendix A-2 of Appendix C.

The Building Profile Input Program (BPIP) with Plume Rise Model Enhancements (PRIME) (version 04274) is used to determine the building downwash characteristics for each stack in 10-degree intervals. The PRIME version of BPIP features enhanced plume dispersion coefficients due to turbulent wake and reduced plume rise caused by a combination of the descending streamlines in the lee of the building and the increased entrainment in the wake.

Receptors

According to U.S. EPA regulations, "ambient air" is defined as the portion of the atmosphere external to source, to which the public has access. The dispersion modeling concentrations are determined for ambient air locations (i.e., receptors). Oppidan's property boundary is the ambient air boundary for the modeling demonstrations. The following receptors are used to ensure ambient air is protected:

- Boundary receptors with 20-meter (m) spacing; and
- A variable density receptor grid with 20 m intervals from the facility boundary to 500 m, 50 m intervals to 1,000 m, 100 m intervals to 2,000 m, 200 m intervals to 5,000 m, and 500 m intervals to 10,000 m.

All receptors are set at a flagpole height of 1.5 meters to conservatively represent an average human's breathing height as recommended by the BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD, 2011)

Load Screening Analysis

The proposed generators would operate at varying loads for purposes of maintenance and testing, in which the pollutant emission rates, and stack parameters (specifically exhaust temperature and flow rate) would differ for each load. The generators would not all operate simultaneously on a short-term basis for routine maintenance and testing activities conducted pursuant to manufacturer specifications. A load screening analysis model was completed to determine the worst-case load and generator for each pollutant and short-term averaging consistent with the averaging periods of the Federal and/or State AAQS. The goal of this analysis is to identify a single generator operating scenario which conservatively represents any potential combinations of generators which could operate during each pollutant averaging period (assuming a single worst-case engine operated continuously at a single load over the 8-hour averaging period instead of a more realistic scenario of various engines operating at various loads for short periods of time over the 8-hour averaging period).

The analysis implements one model (herein referred to as the "General Screening Model") for all pollutant and short-term averaging standards except for 1-hour NO_2 (discussed further below). For CO, SO_2, PM_{10}, and $PM_{2.5}$, the worst-case generator/load combinations are used to develop the AAQS models described further below.

Emission Sources

AERMOD allows for emission units to be represented as point, volume, area, or road sources. The modeled generators are considered point sources and are modeled as such. There is a total of 253 point sources in the model, including five point sources for each of the 50 critical backup generators (one source for each load scenario) and one point source for each of the two life safety generators and security generator. The five point sources at each critical backup generator represented 10%, 25%, 50%, 75% and 100% loads using the load-specific stack parameters per manufacturer specification sheets. The point sources at each life safety generator and security generator represent 100% load. Refer to Appendix A-5 of Appendix C for a summary of emission unit modeling parameters.

Emission Rates

The AERMOD dispersion model is run with a point source unit emission rate of 1 g/s for "Other" pollutant as reflected in the load screening analysis model inputs included in Appendix A-5 of Appendix C.

The Refined 1-Hour NO2 Analysis uses the NOx short-term emission rates directly for the corresponding engine and load in g/s instead of utilizing the unitized 1 g/s emission rate as the model involves a single pollutant and averaging period.

Refined Analysis for 1-Hour NO2 Standards

For comparison to the 1-hour NO_2 NAAQS and CAAQS, each generator and operating load (if applicable) is modeled using the Plume Volume Molar Ratio Method (PVMRM) per US EPA's guidelines (US EPA, 2017). The in-stack ratio (ISR) is set at 0.1 based on data presented in the US EPA's NO_2/NO_x ISR database for diesel/kerosine-fired reciprocating internal combustion engines (US EPA, 2020d). Emissions modeled in the refined analysis reflect the emission rates listed in Table 4-7 of Appendix C for each load and generator and are not annualized as is generally the standard practice for modeling intermittent emission sources.[14]

As part of the PVMRM technique, 2013-2017 hourly ozone data from local monitoring stations is included in the modeling analysis to refine the NO_x to NO_2 conversion rate. Ozone data from the monitoring station at 9th St. & Princevalle St. intersection in Gilroy is utilized, then for hours in which ozone data at this station was not available, data from the 158 East Jackson St, San Jose monitoring station is utilized. Missing hourly ozone data is substituted as follows: for one to two consecutive hours of missing values, the missing value is replaced by the greatest preceding or succeeding value. For three or more consecutive hours of missing hourly values, the maximum value occurring from the same month and hour across the five years of ozone data is used.

Seasonal hourly (SEASHR) NO_2 background data matching the AAQS format are incorporated. Hourly 2015-2017 NO_2 data is from the 1007 Knox Ave., San Jose monitoring station. Missing hourly data is replaced in the same manner as for hourly ozone data previously described. For NAAQS models, hourly data is represented based on the 98th percentile for each season and hour. The 98th percentile is represented using the 3rd-highest value for each season and hour as consistent with EPA Guidance (US EPA, 2011). For CAAQS models, the maximum SEASHR data is used with the format of the standard.

Because PVMRM is dependent on all sources represented in the model, individual models for each generator, load, and standard (CAAQS/NAAQS) are run to determine the worst-case scenario for comparison to the 1-hour NO_2 NAAQS and CAAQS. A total of 253 models are run to estimate the 1-hour NO_2 NAAQS impacts, and another 253 models are run to estimate the 1-hour NO_2 CAAQS impacts. The results of the 506 models are summarized in Appendix A-6 of Appendix C.

Load Screening Analysis Model Results

The General Screening Model results are scaled to the emission rates provided for each pollutant and generator load per the critical backup generators' manufacturer performance specification and life safety/security generators' EPA engine family certification levels. The generator which contributes the maximum ambient concentration after the scaling process for each pollutant/averaging period combination is determined to be the worst-case engine and is then selected for the short-term Federal

[14] EPA guidance recommends annualizing emissions from intermittent sources, such as emergency generators, to demonstrate compliance with the 1-hour NO2 and SO2 NAAQS (US EPA, 2011). However, as the Applicant understands that the CEC does not accept this guidance, the 1-hr SO2 and NO2 emission rates are modeled as maximum hourly emission rates.

and/or State AAQS modeling demonstration. A detailed summary of the worst-case generator at the worst-case load for each criteria pollutant and AAQS averaging period based on these scaled results is included in Table 4.3-9. AERMOD dispersion model outputs are included in Appendix A-6 of Appendix C.

Table 4.3-9: Load Screening Analysis Model Worst-Case Scenario Results

Pollutant	Averaging Period	Worst-Case Generator	Worst-Case Load	Pollutant Specific Emission Rate (g/s/generator)
NO_2	1-hour	SEC1	100%	2.134E-01
	1-hour	GEN50	100%	5.369E+00
CO	1-hour	GEN11	10%	3.272E-01
	8-hour	GEN50	10%	3.272E-01
SO_2	1-hour	GEN11	100%	5.555E-03
	3-hour	GEN30	100%	5.555E-03
	24-hour	GEN33	100%	5.555E-03
PM_{10}	24-hour	SEC1	10%	6.960E-03
$PM_{2.5}$	24-hour	SEC1	10%	6.960E-03

Air Dispersion Modeling Analysis - Construction

Using the worst-case scenarios from the load screening analysis model and critical backup generator and life safety generator emissions calculations, the generator emissions are compared to the short-term NAAQS and CAAQS. All generators are included in the annual modeling scenarios. Ambient air quality standards define clean air and provide protection to public health, including the health of sensitive populations such as children and the elderly. Therefore, modeling in comparison to the NAAQS and CAAQS provides insight into the impact of the proposed project on public health and clean air in the area surrounding the proposed project area.

Emission Sources

AERMOD allows for emission units to be represented as point, volume, area, or road sources. Emissions from the construction equipment tailpipes and fugitive dust from soil disturbance (material handling, roads, and surfaces) are represented as volume sources. The source parameters associated with the construction volume sources are provided in Table 4.3-10.

Table 4.3-10: Project Construction Air Dispersion Modeling Volume Source Input Parameters				
Source Description	**Model ID**	**Release Height (m)**	**Initial Lateral Dimension**	**Initial Vertical Dimension (m)**
Volume Source: Construction Equipment Tailpipe Emissions	EXHAUST	1.12	97.23	0.52
Volume Source: Fugitive Dust from Soil Disturbance (material handling and road dust entrainment)	FUGDUST	1.12	97.23	0.52

Both volume sources are located over the proposed facility buildings to represent were the general area construction would occur. The volume source type is representative of the construction emission sources as they are fugitive in nature and may occur above ground level or with a vertical plume rise. The release heights of EXHAUST and FUGDUST are based on the midpoint height of the weighted average height of the construction equipment. The weighted average height is developed using dimensions of the equipment type and the anticipated quantity of the equipment type. Most emissions from FUGDUST are from material handling operations as opposed to road dust entrainment, this the initial and lateral dimensions are conservatively represented similarly to EXHAUST as opposed to haul road volume source dimensions. Construction equipment types include, but are not limited to, concrete saws, crushers, excavators, dozers, tractors, graders, scrapers, and cranes. The initial lateral and vertical dimensions are estimated using the area encompassing the two proposed construction phases and dividing by a factor of 4.3 and 2.15, respectively, as consistent with AERMOD user guidance (US EPA, 2019b).

Short-term averaging period models only represent the construction volume sources while long-term averaging period models represent both the construction volume sources and the generators associated with the Phase I building (GEN1 through GEN26, LSGEN1) and the security generator (SEC1) (collectively referred to as the Phase I generators). Generators are not included in short-term averaging period models because the applicant would implement Mitigation Measure AIR-2 to comply with the 1-hour NO2 CAAQS and NAAQS limits.

Emission Rates

Emission rates for the construction emission sources reflect the maximum annual and daily mitigated emissions as calculated using CalEEMod. All construction AAQS modeling represents the worst-case emissions by using the maximum emission rates per pollutant across all years of construction operation as represented in one year, which is 2023 during which the Phase II building is constructed. The CalEEMod calculations assume 8 hours of construction equipment operation during weekdays, as will be the typical operating schedule. The dispersion modeling reflects that construction activities would occur during weekdays, generally for 8-hours per day and in accordance with local construction restrictions. Construction equipment tailpipe emissions include NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$. Construction equipment material handling fugitive particulate emissions are included with Fugitive PM_{10} and Fugitive $PM_{2.5}$.

Emission rates for the Phase I generators represented in the long-term averaging period models are consistent with those used for the operational phase dispersion modeling.

Background Concentration

Background concentration data at the ambient air monitoring station in closest proximity to the project is determined as described in the discussion of local air quality above.

As shown in Table 4.3-11, the background concentrations of PM_{10} at certain averaging periods exceed the AAQS. Therefore, any additional project emissions of PM_{10} at the same averaging periods would also exceed the AAQS, regardless of the magnitude of potential emissions from the proposed project.

Ambient Air Dispersion Model Results

The representative worst-case generators from the load screening analysis model were modeled and the resulting concentrations were compared to the NAAQS and CAAQS for each pollutant at each applicable averaging period. A detailed summary of the results and the comparison to NAAQS and CAAQS is included in Table 4.3-11.

The total concentrations of PM_{10} from the background concentrations and project emissions exceed the 24-hour CAAQS and the annual CAAQS. However, for each of these exceedances, the concentrations of pollutant emissions resulting from the project are below the applicable Class II Significant Impact Levels (SIL) thresholds of 5 µg/m3 for 24-hour impacts and 1 µg/m3 for annual impacts, which represent the concentrations of criteria pollutants in the ambient air that are considered inconsequential in comparison to the NAAQS (U.S. EPA, 2018). As stated previously, the background concentrations for each of these cases already exceed the CAAQS and thus despite the comparably minimal project contributions, the CAAQS is exceeded. As demonstrated in Table 4.3-7, the operational PM_{10} emissions from the proposed project are well under the BAAQMD CEQA thresholds of significance. Due to these circumstances, the Applicant does not consider the project emissions as significantly impacting the state or federal air quality plans.

The following should be noted with respect to Table 4.3-11:

- The background concentration data for PM_{10} is above the 24-hour and annual CAAQS and the background concentration data for $PM_{2.5}$ is above the 24-hour NAAQS and annual CAAQS without including concentrations from the proposed project.
- Therefore, the concentration of PM_{10} is above the 24-hour and annual CAAQS when cumulated with background concentration data available from BAAQMD ambient air monitors and it can be deduced that the background concentrations of PM_{10} are responsible for the proposed project's total concentration exceeding the CAAQS for PM_{10}.
- Further, the concentrations of PM10 resulting from the proposed project alone are significantly below the CAAQS and the 24-hour and annual concentrations of PM_{10} resulting from the proposed project are below the PM_{10} 24-hour and annual SILs.
- Per the BAAQMD CEQA thresholds of significance, PM_{10} emissions are much lower than the significance thresholds.

To comply with the 1-hour NO_2 NAAQS, the Applicant shall incorporate the following mitigation into the project design to reduce NO_X impacts below the threshold, as addressed in detail below.

Table 4.3-11: Ambient Air Quality Dispersion Model Results and Comparison to AAQS

Source [a]	Maximum Cancer Risk (in 1 million)			Maximum Hazard Index			Maximum Annual $PM_{2.5}$ Contribution ($\mu g/m^3$) [b]		
	MEIW	MEIR	MEISR	MEIW	MEIR	MEISR	MEIW	MEIR	MEISR
Plant No. 14520, Kaiser Permanente	6.56			0.01			0.01		
Plant No. 15334, Target Store T1851	0.01			0			0		
Plant No. 15772, City of Gilroy	1.54			0			0		
Plant No. 18259, County of Santa Clara - VHC Gilroy	1.64			0			0		
Plant No. 19648, City of Gilroy	6.23			0			0.01		
Highway	12.07	5.90	34.43	-- [c]			0.197	0.095	0.576
Railways	0.97	0.81	1.38	-- [c]			0.001	0.001	0.002
Major Streets	0.08	0.04	0.07	-- [c]			0.002	0.001	0.002
Total Cumulative Sources	29.10	22.72	51.86	1.00E-02	1.00E-02	1.00E-02	0.22	0.12	0.60
Project Operation of Generators	4.23	3.16	1.69	3.25E-03	7.29E-04	3.90E-04	7.29E-04	3.90E-04	0.039
Total Cumulative Sources + Project Operation	*33.33*	*25.88*	*53.55*	*0.013*	*0.011*	*0.010*	*0.26*	*0.16*	*0.64*
Significance Threshold	*100*			*10*			*0.8*		
Significant Impact?	**No**			**No**			**No**		

a. Source within 1,000 feet of the Facility are determined using BAAQMD's Permitted Stationary Sources Risk and Hazards tool accessed online October 2020. As of 2020, BAAQMD has updated its procedures to only provide maximum values for each stationary source/facility. As such, only the maximum values are represented for each source/facility.

b. Maximum Annual PM2.5 reflects the project impact determined for the annual PM2.5 CAAQS, Annual PM2.5 CAAQS is conservatively used to represent the MEIW, MEIR, MEISR.

c. Hazard index is not provided for highways, major streets and railways per the BAAQMD raster files.

Mitigation Incorporated into the Project Design:

PD AIR-2: The project shall limit generator maintenance and testing such that generator maintenance and testing operation does not occur during the same hour as the Phase II building exterior construction equipment.

Air Dispersion Modeling Analysis - Operational

Using the worst-case scenarios from the load screening analysis model and critical backup generator and life safety generator emissions calculations, the generator emissions are compared to the short-term NAAQS and CAAQS. All generators are included in the annual modeling scenarios. Ambient air quality standards define clean air and provide protection to public health, including the health of sensitive populations such as children and the elderly. Therefore, modeling in comparison to the NAAQS and CAAQS provides insight into the impact of the proposed project on public health and clean air in the area surrounding the proposed project area.

Emission Sources

Air dispersion models for averaging periods of less than one year include the representative worst-case generator based on location as determined per the load screening analysis. Stack parameters correspond to the representative the worst-case load identified in the load screening analysis.
Air dispersion models for annual averaging periods include all 50 critical backup generators, the two life safety generators, and one security generator. Stack parameters for the critical backup generators, such as temperature and flow rate, are conservatively set at 10% load, representing the lowest temperature and flow rate. Low temperatures and low flow rates are considered to be most conservative because cooler, slow-moving plumes are less ideal for dispersion and tend to concentrate closer to the project area and surrounding area, resulting in higher concentrations. In contrast, hot and fast-moving plumes will disperse more quickly and create lower concentrations in and around the facility.

Emission Rates

The AERMOD dispersion model is run with different unit emission rates dependent upon the averaging period of the model. For averaging periods of less than one year, the emissions factors from the manufacturer specification sheets for the worst-case representative generator load are converted to a gram-per-second equivalent value. This equivalent value is input as the emission rate into the AERMOD dispersion model.

Operation will be limited to one generator at a time for routine maintenance and testing activities conducted pursuant to manufacturer specifications. The short-term AAQS models represent the most conservative emissions' scenario in which the worst-case load and generator operates over the entire averaging period.

For annual averaging periods, the Potential to Emit (PTE) calculated in the emission calculations per generator was converted to a gram-per-second equivalent value for the critical backup generators and

life safety generators.[15] These equivalent values were inputted as the emission rate for the respective type of generator into the AERMOD dispersion model.

Background Concentration

Background concentration data at the ambient air monitoring station in closest proximity to the project is determined as described in the discussion of local air quality above.

As shown in Table 4.3-11, the background concentrations alone of PM_{10} at certain averaging periods exceed the AAQS. Therefore, any additional project emissions of PM_{10} at the same averaging periods would also exceed the AAQS, regardless of the magnitude of potential emissions from the proposed project.

Ambient Air Dispersion Model Results

The representative worst-case generators from the load screening analysis model were modeled and the resulting concentrations were compared to the NAAQS and CAAQS for each pollutant at each applicable averaging period. A detailed summary of the results and the comparison to NAAQS and CAAQS is included in Table 4.3-10. The total concentration of PM_{10} from both background concentration and project emissions exceed the 24-hour CAAQS and the annual CAAQS. However, for each of these exceedances, the concentrations of pollutant emissions resulting from the project are below the applicable Class II Significant Impact Levels (SIL) thresholds of 5 μg/m3 for 24-hour impacts and 1 μg/m3 for annual impacts, which represent the concentrations of criteria pollutants in the ambient air that are considered inconsequential in comparison to the NAAQS (U.S. EPA, 2018). As stated previously, the background concentration data for each of these cases already exceeds the CAAQS and thus despite the comparably minimal project emissions the CAAQS is exceeded. Additionally, as demonstrated in Table 4.3-7, the operational PM_{10} emissions from the proposed project are well under the BAAQMD thresholds of significance. Due to these circumstances, the applicant does not consider the project emissions as significantly impacting the state or federal air quality plans.

The following should be noted with respect to Table 4.3-10:

- The background concentration data for PM_{10} is above the 24-hour and annual CAAQS and the background concentration of $PM_{2.5}$ is above the 24-hour NAAQS and annual CAAQS without including concentration from the project.
- Therefore, the concentration of PM_{10} is above the 24-hour and annual CAAQS when cumulated with background concentration data available from BAAQMD ambient air monitors and it can be deduced that the background concentrations of PM_{10} are responsible for the project's total concentration exceeding the CAAQS for PM_{10}.
- Further, the concentrations of PM_{10} resulting from the project alone are significantly below the CAAQS and the 24-hour and annual concentrations of PM_{10} resulting from the project are below the PM_{10} 24-hour and annual SILS.
- Per the BAAQMD CEQA thresholds of significance, PM_{10} emissions are much lower than the significance thresholds.

[15] This emission rate conversion from annual PTE in tpy to g/s is based on 8,760 hours per year of operation as AERMOD will estimate annual impacts from 8,760 hours per year of operation.

To comply with the 1-hour NO_2 NAAQS, the Applicant shall incorporate the following mitigation into the project design to reduce NO_X impacts below the threshold, as addressed in detail below.

Mitigation Incorporated into the Project Design:

PD AIR-3: The project shall not conduct maintenance and testing for the listed engines during the following hours and loads to comply with the 1-hour NO_2 NAAQS:

- GEN49 – No routine maintenance and testing at 100% load from 6:00 PM – 7:00 PM.
- GEN50 – No routine maintenance and testing at 100% load from 5:00 PM – 6:00 PM.
- SEC1 (Security Generator) – No routine maintenance and testing from 5:00 PM – 7:00 AM. Although the NO_x emissions exceed BAAQMD CEQA thresholds of significance, the concentration of NO_x resulting from the project would not exceed the CAAQS or NAAQS with implementation of Project Design Measures PD AIR-1.1 and PD AIR-1.2. The ambient air quality dispersion model resulted in PM_{10} exceeding the CAAQS, however this was due to background concentration data rather than pollutant concentrations resulting from the project. Furthermore, although PM_{10} exceeded the CAAQS due to high background pollutant concentrations, project emissions of PM_{10} were below applicable SILs. Therefore, the project would not conflict with or have any adverse impact on implementation of the 2017 Bay Area Clean Air Plan nor would the project disrupt, or hinder implantation of any plan control measures with mitigation incorporated.

Health Risk Analysis

This section presents the evaluation of potential health risks from TACs associated with the proposed project. The air toxic sources associated with the proposed project are the emissions of diesel from emergency generators. Two HRAs are completed to determine the potential health risks, one for the construction phase and one for the operational phase of the project. The air toxic sources associated with the proposed project for the construction phase are the emissions of diesel particulate matter from diesel-fired construction equipment for the exterior of the Phase II building and the operation of the Phase I building emergency generators. The air toxic sources associated with the proposed project for the operational phase are the emissions of diesel from emergency generators.

AERMOD dispersion modeling and the Hotspots Analysis and Reporting Program (HARP) Air Dispersion Modeling and Risk Tool (ADMRT) (version 19121) is used in this analysis to estimate carcinogenic and chronic health risks at residential and worker receptors as a result of the emissions associated with the project.[16] The analysis concludes that the health risk is below BAAQMD's HRA thresholds. The increased risk is evaluated on a per-receptor basis using the results from HRAs conducted for the proposed project emissions scenario. The results support a less than significant air quality impact on air toxic pollutant emissions. The following sections detail the parameters relevant to the air dispersion model and HRA.

[16] DPM is the only toxic pollutant emitted from the Project's operations, which does not have acute health risk effects.

Receptors
The fenceline and refined variable density receptors used for the air dispersion modeling are also used to evaluate the project health risks associated with the proposed project. The receptors are set at a flagpole height of 1.5 meters to conservatively represent an average human's breathing height as recommended by the BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD, 2011).

There are four key receptor types as follows:

- The Point of Maximum Impact (PMI) is selected as the highest risk receptor regardless of location.
- The Maximally Exposed Individual Resident (MEIR) is selected as the highest impact receptor which best aligns with a residence as modeled with resident exposure pathways and duration.
- Maximally Exposed Individual Sensitive Receptor (MEISR) is selected as the highest impact receptor which best aligns with a sensitive receptor (e.g. school, hospital, nursing home) as modeled with resident exposure pathways and duration.
- Maximally Exposed Individual Worker (MEIW) is selected as the highest impact receptor which best aligns with a workplace as modeled with worker exposure pathway and duration.

Potential sensitive receptors near the project are identified and summarized in Table 4.3-5. For purposes of the health risk analysis, the sensitive receptors are further refined to account for the anticipated chronic (long-term) exposure at the receptor location.

Emission Sources
For the construction phase HRA, emissions are conservatively represented by using the maximum exhaust particulate emission rates as representative for 2023 in which the Phase II building is constructed and during which the Phase I building is operational. The AERMOD dispersion model is run with one volume source representing construction equipment tailpipe emissions and point sources representing 26 critical backup generators, one life safety generator, and one security generator.

For the operational phase HRA, the AERMOD dispersion model is run with point sources representing each of the 50 critical backup generators, two life safety generators, and one security generator. Stack parameters such as temperature and flow rate for the critical backup generators are conservatively set at 10% load, representing the lowest temperature and flow rate. Stack parameters for the life safety generators and security generator are set at 100% load due to the availability of manufacturer-specified stack parameter data.

Emission Rates
The AERMOD dispersion model is run with a point source unitized emission rate of 1 g/s for "Other" pollutant. The AERMOD results are scaled by the project operational annual PTE per generator calculated in the emission calculations.

Exposure Pathways
Results from the air dispersion modeling assessment are combined with applicable TAC emission rates in HARP to model risk and exposure. Exposure pathways are generally classified as primary

pathways and secondary pathways. Inhalation is the primary exposure pathway for all modeled sources and substances. For multi-pathway substances, non-inhalation exposure pathways are also to be evaluated. As DPM does not contribute to acute health risk, only cancer risks and chronic hazard indices are considered for the analysis.

Residential cancer risks and chronic hazard indices are evaluated for the following exposure pathways: dermal absorption, soil ingestion (0.02 m/s for particulate controlled sources), and mother's milk. HARP default parameters were used for numerical pathway inputs.

Worker cancer risks and chronic hazard indices are evaluated based on worker multi-pathway exposure for the following exposure pathways: dermal absorption, soil ingestion (deposition rate = 0.02 m/s for particulate-controlled sources). An 8-hour breathing rate with moderate intensity and a 4.2 worker adjustment factor (WAF) was applied to the inhalation pathway to conservatively account for exposure to workers while testing occurred primarily during regular business hours.

Construction Phase Exposure Duration

As construction is not expected to occur for more than seven years, the exposure duration is represented as seven years with residential and sensitive receptor exposure assumed to begin prior to birth (during the third trimester of pregnancy). Worker exposure is assumed to begin at age 16 and for a total duration of seven years. For the residential scenario, the default fraction of time at residence for age bins greater than or equal to 16 years is applied to account for adults spending a portion of the day away from their residence. The fraction of time at residence for age bins less than or equal to 16 years is not applied because at least one school is located within the Zone of Impact (ZOI) which is the 1 per million or greater cancer risk zone associated with the project (OEHHA, 2015).

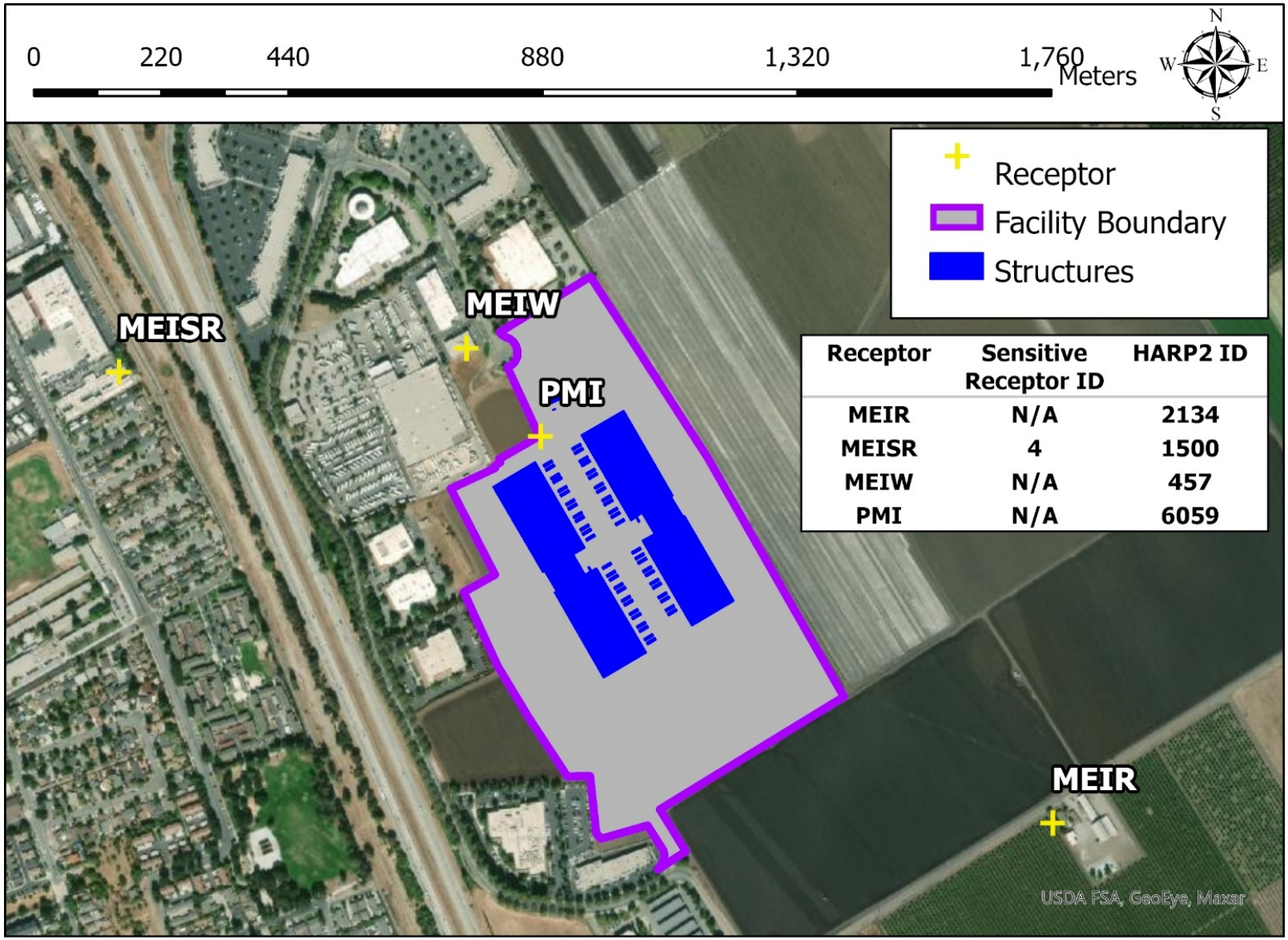
Operational Phase Exposure Duration

Consistent with health risk default parameters, residential and sensitive receptor exposure is assumed to begin prior to birth (during the third trimester of pregnancy) and continue for 30 years while worker exposure is assumed to begin at age 16 and continue for 25 years. For the residential scenario, the default fraction of time at residence for age bins greater than or equal to 16 years is applied to account for adults spending a portion of the day away from their residence. The fraction of time at residence for age bins less than or equal to 16 years is not applied because at least one school is located within the ZOI which is the 1 per million or greater cancer risk zone associated with the project (OEHHA, 2015).

Project Air Toxic Modeling Results

The risk from the proposed project for each residential or worker receptor is evaluated against the BAAQMD significance thresholds. The cancer risk and chronic hazard index for both residents, sensitive individuals, and workers are all below the BAAQMD significance thresholds for health risk. These risks are listed in Table 4.3-12. The HRA concludes that the project would not have a significant health risk.

Figure 4.3-1 shows the location of the MEIR, MEISR, MEIW, and PMI of the operational phase. The MEIR, MEISR, MEIW, and PMI locations are the same for both cancer risk and chronic hazard index evaluations. The construction phase MEIR, MEISR, and MEIW are the same locations as that for the operational phase.



Receptor	Sensitive Receptor ID	HARP2 ID
MEIR	N/A	2134
MEISR	4	1500
MEIW	N/A	457
PMI	N/A	6059

LOCATION OF MEIR, MEISR, MEIW, AND PMI

FIGURE 4.3-1

Table 4.3-12: Health Risk Assessment Results							
Receptor	Sensitive Receptor ID	Location (UTM Zone 10)	Cancer Risk (in 1 million)		Chronic Hazard Index		Significant Impact?
			Project Risk	Significance Threshold	Project Hazard Index	Significance Threshold	
Construction Phase							
MEIR	N/A	628869 m E 4097265 m N	3.74	10	1.39E-03	1.0	No
MEISR	4	627569 m E 4097865 m N	1.90	10	7.07E-04	1.0	No
MEIW	N/A	628049 m E 4097905 m N	2.57	10	6.76E-03	1.0	No
PMI	N/A	628469 m E 4097725 m N	35.16	N/A[a]	1.31E-02	N/A[a]	N/A
Operational Phase							
MEIR	N/A	628869 m E 4097265 m N	3.16	10	7.29E-04	1.0	No
MEISR	4	627569 m E 4097865 m N	1.69	10	3.90E-04	1.0	No
MEIW	N/A	628049 m E 4097905 m N	4.23	10	3.25E-03	1.0	No
PMI	N/A	628469 m E 4097725 m N	28.3	N/A[a]	6.54E-03	N/A[a]	N/A

a. The BAAQMD CEQA Air Quality Guidelines note that the health risk evaluation should be considered for the maximally exposed individual (MEI). Per BAAQMD Rule 2-5-302 and BAAQMD Rule 11-18-213, the MEI is defined as "a person that may be located at the receptor location where the highest exposure to toxic air contaminants emitted from a given source or project is predicted, as shown by an APCO-approved HRA." The definitions go on to specify that MEI locations consider exposure to residents, workers, and students. As such, the MEI location differs from the PMI in this evaluation. Since the PMI is not located at a receptor location where a person may reasonably be located on a long-term basis, the chronic and cancer risk thresholds are not applicable to the PMI location.

Cumulative Health Risk Assessment Results

In additional to the HRA described above, an assessment of the proposed project's impact summed with the impacts of sources within 1,000 feet of the project was conducted and compared to the BAAQMD CEQA cumulative thresholds of significance (BAAQMD, 2017b).[17] The cumulative cancer risk, hazard index, and $PM_{2.5}$ concentration was calculated using a Health Risk Calculator and emissions data from stationary sources within 1,000 feet of the proposed project, as provided by BAAQMD. The cancer risk and $PM_{2.5}$ concentration from highways, major streets and rails within 1,000 feet of the project was determined using BAAQMD raster files that incorporate annual average daily traffic (AADT) per EMFAC 2014 data for fleet mix and includes OEHHA's 2015 Guidance Methods. The raster files encompass highways, major streets and rails with greater than 30,000 AADT. Table 4.3-13 summarizes the impacts of from cumulative sources in comparison to the BAAQMD threshold of significance for cumulative risk and hazards.

[17] Per the BAAQMD CEQA Guidelines, the zone of influence for the cumulative threshold is 1,000 feet from the source or receptor.

Table 4.3-13: Impacts from Cumulative Sources									
Source	**Maximum Cancer Risk (in 1 million)**			**Maximum Hazard Index**			**Maximum Annual $PM_{2.5}$ Contribution (µg/m3)**		
	MEIW	**MEIR**	**MEISR**	**MEIW**	**MEIR**	**MEISR**	**MEIW**	**MEIR**	**MEISR**
Plant No. 14520, Kaiser Permanente	6.56			0.01			0.01		
Plant No. 15334, Target Store T1851	0.01			0			0		
Plant No. 15772, City of Gilroy	1.54			0			0		
Plant No. 18259, County of Santa Clara - VHC Gilroy	1.64			0			0		
Plant No. 19648, City of Gilroy	6.23			0			0.01		
Highway	12.07	5.90	34.43	--c			0.197	0.095	0.576
Railways	0.97	0.81	1.38	--c			0.001	0.001	0.002
Major Streets	0.08	0.04	0.07	--c			0.002	0.001	0.002
Total Cumulative Sources	29.10	22.72	51.86	1.00E-02	1.00E-02	1.00E-02	0.22	0.12	0.60
Project Operation of Generators	4.23	3.16	1.69	3.25E-03	7.29E-04	3.90E-04	7.29E-04	390E-04	0.039
Total Cumulative Sources + Project Operation	33.33	25.88	53.55	0.013	0.011	0.010	0.26	0.16	0.64
Significance Threshold	100			10			0.8		
Significant Impact?	**No**			**No**			**No**		

a. Sources within 1,000 feet of the Facility are determined using BAAQMD's Permitted Stationary Sources Risk and Hazards tool (BAAQMD, 2020b). As of 2020, BAAQMD has updated its procedures to only provide maximum values for each stationary source/facility. As such, only the maximum values are represented for each source/facility.

b. Maximum Annual PM2.5 reflects the project impact determined for the annual PM2.5 CAAQS. Annual PM2.5
c. Hazard index is not provided for highways, mains streets and railways per the BAAQMD raster files.

The cumulative cancer risk, hazard index, and $PM_{2.5}$ were estimated for the MEIR, MEIW, and MEISR. The annual $PM_{2.5}$ project impact for the MEIR, MEIW, and MEISR all conservatively reflect the maximum annual $PM_{2.5}$ impact from the project. Based on the results of the comparison to cumulative thresholds for the proposed project, the project's health risk for maximally exposed individuals does not exceed the cumulative health risk thresholds when summed with the health risk of sources within 1,000 feet of the project.

Data for future projects is not available from BAAQMD, thus the cumulative HRA was primarily performed based on existing operations quantified by BAAQMD. The Applicant also conservatively assumes that one new data center could be constructed within 1,000 feet of the project site boundary and includes the same cancer risk, hazard index and $PM_{2.5}$ concentration as the proposed project for this theoretical source. The cumulative thresholds of significance are not exceeded even with this theoretical source.

4.4 BIOLOGICAL RESOURCES

This discussion is based, in part, on a Natural Resources Memorandum prepared by Environmental Resources Management, Inc. (ERM) in October 2019. A copy of this report is included in Appendix D of this application.

4.4.1 Environmental Setting

4.4.1.1 *Regulatory Framework*

Federal and State

Endangered Species Act

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.[18] 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.

[18] United States Department of the Interior. "Memorandum M-37050. The Migratory Bird Treaty Act Does Not Prohibit Incidental Take." Accessed March 28, 2019. https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf.

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 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

Santa Clara Valley Habitat Plan/Natural Community Conservation Plan

The Santa Clara Valley Habitat Plan/Natural Community Conservation Plan (Habitat Plan) covers approximately 520,000 acres, or approximately 62 percent of Santa Clara County. It was developed and adopted through a partnership between Santa Clara County, the Cities of San José, Morgan Hill, and Gilroy, Santa Clara Valley Water District (Valley Water), Santa Clara Valley Transportation Authority (VTA), USFWS, and CDFW. The Habitat Plan is intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth in southern Santa Clara County. The Santa Clara Valley Habitat Agency is responsible for implementing the plan.

Gilroy 2040 General Plan

The following General Plan policies related to biological resources are applicable to the proposed project:

Policy	Description
NCR 1.4	**Plant and Wildlife Habitats.** In concert with Habitat Plan requirements, preserve important plant and wildlife habitats, including streams and riparian habitats, wildlife movement corridors, heavily vegetated hillside areas, unique ecosystems (such as oak woodlands and serpentine substrates), and significant nesting/denning sites for native wildlife.
NCR 1.7	**Special Status Species.** Special-status species are those listed as Endangered, Threatened, or Rare, or as Candidates for listing by the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW), or Rare Plant Rank 1B or 2B species by the California Native Plant Society (CNPS). This designation also includes CDFW Species of Special Concern and Fully Protected Species. For special-status species that are not among the 18 covered species in the Habitat Plan, minimize future development in areas that support such species. Conduct focused surveys per applicable regulatory agency protocols as appropriate to determine if such species occur on a given project site, as determined necessary by a qualified biologist. If

Policy	Description
	development of occupied habitat must occur, species impacts shall be avoided or minimized, and if required by a regulatory agency or the CEQA process, loss of wildlife habitat or individual plants should be fully compensated on the site. If off-site mitigation is necessary, it should occur within the Gilroy Planning Area whenever possible with a priority given to existing habitat mitigation banks. Habitat mitigation shall be accompanied by a long-term management plan and monitoring program prepared by a qualified biologist and include provisions for protection of mitigation lands in perpetuity through the establishment of easements and adequate funding for maintenance and monitoring.
LU 6.9	**Greenbelts.** Designate protected open space areas in conjunction with agricultural lands to create significant natural buffers, or "greenbelts," between Gilroy and surrounding communities, helping to retain the city's semi-rural, small town quality. Land uses within a greenbelt should be determined by joint planning activities of the South County cities and the County, but might include very low density residential development; public parks and recreation areas; privately operated recreation areas; and agriculture. Of special concern is the area separating the northern part of the Gilroy Planning Area from the community of San Martin.
NCR 1.5	**Open Space Access and Management.** In concert with Habitat Plan requirements, encourage the management and maintenance of public and private open space areas in a manner that ensures habitat protection, provides for public access, addresses public safety concerns, and meets low-impact recreation needs.
NCR 1.6	**Preservation Techniques.** In concert with Habitat Plan requirements, develop and apply a variety of preservation tools to protect open space areas in and around the city (such as through dedication of open space easements). In the selection and application of preservation methods, emphasis should be given to minimizing public cost and liability exposure; encouraging private ownership and responsibility for long-term management and maintenance issues; consideration of public access issues; and ensuring preservation in perpetuity.

Gilroy Tree Ordinance

The City of Gilroy maintains the urban landscape by controlling the removal of heritage trees and protected trees on private property. A tree removal permit is required from the City of Gilroy for the removal of heritage and protected trees.

Heritage trees are defined as trees of any species with a single trunk of 90 inches in circumference or more at a point of 4.5 feet above the ground or with multiple trunks, two of which collectively measure 72 inches in circumference or more at a point 4.5 feet above the ground.

Protected trees are defined as trees having a single trunk of 38 inches in circumference or more at a point of 4.5 feet above the ground. Nonindigenous tree species and orchards (including individual fruit and nut trees) are exempt from this definition. Indigenous trees are defined as trees that are native to the Gilroy region, including oaks (all types), California bay (*Umbellularia californica*), big

leaf maple (*Acer macrophyllum*), madrone (*Arbutus menziesii*), California Sycamore (*Platanus racemosa*), California buckeye (*Aesculus californica*), and alder (*Alnus glutinosa*).

4.4.1.2 *Existing Conditions*

Wildlife and Habitat

The project site is comprised of tilled agricultural land. There are no wetlands present on-site. The Miller Slough is located approximately 900 feet west of the site. No USFWS Critical Habitat is listed at the site. The following species were mapped with California Natural Diversity Database occurrences within two miles of the project site:

Pallid bat (*Antrozous pallidus*): The pallid bat is listed as a CDFW Species of Special Concern (SSC). Bat roosts are most commonly found in rock crevices, although bridges, live trees, and snags can also be used. ERM's biologists did not identify any suitable habitat for this species during their site visit.

Hoary bat (*Lasiurus cinereus*): The hoary bat is listed as a Western Bat Working Group (WBWG) Medium Priority species. The species habitat includes forested habitats in which roosts can be developed in the dense foliage of trees. Habitat can also include suburbs with older large trees. During migration, males are found in foothills, deserts, and mountains while females are found in lowlands and coastal valleys. ERM's biologists did not identify suitable habitat for this species during their site visit.

Additionally, no burrowing owl habitats or burrows were observed at the site or listed on the natural resources mapper for the Habitat Plan.

The project site is located within the boundaries of the Habitat Plan. The site is designated as *Grain, Row-crop, Hay and Pasture, Disked / Short-term Fallowed* land cover and is located in Fee Zone B (Agricultural and Valley Floor Lands).

Trees

There are 18 trees present at the project site (including adjacent properties): five private non-protected trees on-site, six street trees adjacent to this property, one street tree adjacent to a neighboring property, and six trees overhanging from adjacent properties.

4.4.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) 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)?	☐	☒	☐	☐
b) 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?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands, as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) 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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

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 into the Project Design)**

The project does not contain habitat conducive to special-status species, and therefore it is not anticipated that special-status species are present on-site. However, project construction would involve removal of trees on and adjacent to the site. Trees could provide habitat for nesting birds.

Nesting birds are protected under provisions of the MBTA and CDFW code. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise could lead to nest abandonment. Disturbance that causes abandonment or destruction of nests on-site or immediately adjacent to the construction zone would constitute a significant impact.

Mitigation Incorporated into the Project Design

PD BIO-1: The project would incorporate the following measures to reduce impacts to nesting birds.

- If removal of the trees on-site would take place between January and September, a pre-construction survey for nesting raptors will be conducted by a qualified ornithologist to identify active nesting raptor nests that may be disturbed during project implementation. Between January and April (inclusive) pre-construction surveys will be conducted no more than 14 days prior to the initiation of construction activities or tree relocation or removal. Between May and August (inclusive), pre-construction surveys will be conducted no more than thirty (30) days prior to the initiation of these activities. The surveying ornithologist shall inspect all trees in and immediately adjacent to the construction area to be disturbed by these activities, and the ornithologist shall, in consultation with the State of California, Department of Fish and Wildlife (CDFW), designate a construction-free buffer zone (typically 250 feet) around the nest until the end of the nesting activity.

- The applicant shall submit a report indicating the result of the survey and any designated buffer zones to the satisfaction of the Director of Community Development prior to the issuance of a tree removal permit by the City Arborist.

With implementation of the above measures, potential impacts from the project on special-status bat species and nesting birds would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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)**

The project site does not contain any riparian habitat or other sensitive communities. The Miller Slough is located approximately 900 feet west of the site. The project is separated from the Miller Slough by commercial and industrial uses to the south, as well as US 101, and would not have substantial adverse impacts on the habitat. **(Less than Significant 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 is not located on or adjacent to any wetlands. **(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? **(Less than Significant Impact)**

The project site is located in a developed area and 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 any native wildlife nursery. Impacts to migratory birds are addressed in Impact BIO-1. **(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)**

The project proposes to remove 18 existing trees. The project would include new trees and shrubs as part of the proposed landscaping. The project would be required to comply with the City's Tree Ordinance and the applicant would be required to obtain a tree removal permit, as described in Section 4.4.1.2 Regulatory Framework. The project would also be required to plant two replacement trees for every protected tree removed. The required size of replacement trees, pursuant to City Code 30.38.270 is summarized below:

- 24-inch boxes shall be used for every protected tree removed that is 38 to 75 inches in circumference.
- 36-inch boxes shall be used for every protected tree removed that is greater than 75 inches in circumference.
- 48-inch boxes shall be used for every heritage tree removed.

By complying with the City's Tree Ordinance, the project would not conflict with any local policies or ordinances protecting biological resources (see the Landscape Plan sheets L100, L101 and L102 contained in Appendix A and the Arborist Report included in Appendix D). **(Less than Significant Impact)**

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? **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

While the project site is within the Habitat Plan permit area, it does not have a natural communities land cover designation identified for the purposes of protection, enhancement, and restoration. The site is characterized within Permit Area 4 (Urban Development), and Fee Zone B for agricultural and valley floor properties. The project shall comply with the Santa Clara Valley Habitat Plan by implementing the below standard condition of approval identified as mitigation incorporated into the project design.

Mitigation Incorporated into the Project Design:

PD BIO-2: The project is subject to applicable Habitat Plan conditions and fees (including the nitrogen deposition fee) prior to issuance of any grading permits. The project applicant shall submit the Santa Clara Valley Habitat Plan Coverage Screening Form and Application for Private Projects to City of Gilroy Planning Division for approval and shall pay all applicable fees prior to the issuance of a grading permit. Applicable conditions shall be implemented in accordance with Habitat Plan requirements.

Implementation of the above mitigation would ensure that the project does not conflict with the provisions of the Habitat Plan. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

4.5 CULTURAL RESOURCES

The discussion in this section is based in part upon a Cultural Resources Literature Search prepared for the project by *Holman & Associates, Inc.* in December 2020. A copy of the report will be docketed with the Commission under a Request for Confidentiality.

4.5.1 Environmental Setting

Cultural resources are evidence of past human occupation and activity and include both historical and archaeological resources. These resources may be located above ground or underground and have significance in the history, prehistory, architecture, culture of the nation, State of California, or local or tribal communities.

4.5.1.1 *Regulatory Framework*

Federal and State

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.

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.[19]

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

[19] California Office of Historic Preservation. "CEQA Guidelines Section 15064.5(a)(3) and California Office of Historic Preservation Technical Assistance Series #6." March 14, 2006.

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.

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.

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

Gilroy 2040 General Plan

The following policy in the City's General Plan has been adopted for the purpose of reducing or avoiding impacts related to cultural resources and are applicable to the proposed project.

Policy	Description
NCR 5.1	**Historic Structures and CEQA** Discretionary projects subject to the California Environmental Quality Act (CEQA), which include changes to, or demolition of, structures that are 45 years or older, will require an historic property report or other substantial evidence in the record of the project to determine whether the structure is historically significant
NCR 5.2	**Historic and Pre-historic Archaeological Resources and CEQA** Discretionary projects subject to the California Environmental Quality Act (CEQA) which include disturbance of the existing ground surface of the project site will require an archaeological survey and records search if the project site is located in a moderate to high archaeological sensitivity zone as identified on Figure 3.5-1 of the General Plan EIR, or if other evidence suggests the project site to be archaeologically sensitive.

Policy	Description
NCR 5.3	**Archaeological Resources Protection** Ensure that all projects involving ground-disturbing activities include procedures to protect archaeological resources if discovered during excavation. Projects shall follow CEQA and other applicable State laws

4.5.1.2 *Existing Conditions*

In November 2020, personnel from the Northwest Information Center of the California Historical Resources Information System (CHRIS) provided site records and studies for Holman & Associates to summarize and interpret (File No. 20-790). All records of identified archaeological resources within a quarter of a mile, and all other cultural resources and archaeological resources reports for projects within 50 meters of the project area were reviewed. Studies on file at Holman & Associates' library were also used.

No cultural resources have been identified within the project area, nor have any been recorded within a quarter mile. No resources are listed on federal, state, or local inventories within or abutting the property (CA-DPR 1976; CA-OHP 2012, 2020; NPS 2020). In this part of the central Santa Clara Valley, prehistoric archaeological resources have been recorded on terraces adjacent to major creeks, at the margins of former marshes, and often at the confluences of two creeks. Several buried archaeological sites have been recorded near major waterways. The project area is part of the gently sloping alluvial valley floor 0.66 miles west of the channelized Llagas Creek, 0.3 miles north of channelized West Branch of Llagas Creek, and 0.9 miles from the created confluence of the West Branch and the larger creek, a point created by flood control efforts after 1955.

The property was first studied for the proposed Las Animas Technology Park (Harversat and Breschini 1981). That 190-acre project was south of Leavesley Road, east of US-101, and north of Gilman, which included all of the current project area. In August August 1980, a field inspection was attempted, but the cultivated plants afforded little surface soil visibility and the land had been heavily irrigated. In January 1981, the lead author returned to examine the land after the crops had been harvested. Field conditions were dry soils with no crops. A few pieces of naturally occurring cherts were noted. A construction crew had demolished a historical building despite the protection accorded that unrecorded resource within the Condition of Permit. Several structures were still extant but on closer inspection none appeared historically significant. It was noted that the parcel periodically flooded and there was a potential for buried archaeological resources.

The CHRIS includes the project area within the City's Historic Building Inventory because the property lies within the city limits (Dorn et al. 1992a, 1992b). The architectural survey, however, was limited to lands on the west side of US-101.

One archaeological study has been conducted on nearby lands (Doane and Haversat 2003). Prior to the healthcare facility construction on lands to the south, 11.7 acres of land were surveyed just south of the current project area. The light- to medium-brown silt contained gravel to cobble-size sedimentary stone that was naturally occurring.

Historic-era maps for the property area were examined to identify the potential for archaeological resources that might elaborate on the history of the property and general area. In 1876, all of the current project area was part of a 1,222-acre property owned by Julius and Mrs. E. Martin (Thompson & West 1876). Their house once stood just beyond the southwestern portion of the current property boundary. Llagas Creek (then called Arroyo de las Llagas) flowed south in a less undulating channel than today or in its previous creekbed. A small creek was depicted to the southeast of the then boundary of Gilroy and another to the north and northeast. The formalized West Branch was not shown and it is likely the initial phases of urban development impacted and fragmented its course. In 1917, no development was shown within the current property boundary with the closest improvements consisting of a house to the west, south of where Leaf Ave. extension, presumably the Martin's house (USGS 1917). Two other houses were situated on the north side of Gilman Road. The West Branch of Llagas Creek flowed from north to northwest of Gilroy before heading east just south of Gilman Road where it emptied into a wetland. In 1940, no improvements were shown within the current project area (US Army 1940).

Aerial photographs are available from 1993 to the present (Google Earth 2020). In 1993, the berm in the northern corner was present. The northern edge was unplanted with the remainder productive agricultural lands planted in rows. Very minor changes were shown in the last few decades. There is a low potential for specific historic-era archaeological deposits within the current project area.

In December 2020, Holman & Associates, completed an archaeological survey of the lands comprising the project area. Relatively recent discing has left the soil in small compacted clumps with some soft patches of dirt. Scattered Roma tomatoes and a few plant remnants are all that remained of the previous crop. The eastern and southern borders are flanked by v- ditches for irrigation use.

The survey was conducted by walking around and over each of the two berms (northeast and south). The amount of vegetation limited the soil visibility to approximately 30% for both berms. Visible soil was brown silty clay with some medium- and small-angular, and sub-angular gravels. Recent debris included a rusted ferrous plate fragment, wood and metal screws, plastic and clear bottle glass fragments, and concrete fragments. The northern mound has a small homeless occupation with much modern trash and debris on top of the mound including old clothing, food wrappers, broken furniture, and broken beer bottles. The field inspection of this area was completed after these individuals left the property.

The main portion of the property consists of flat farmland. This area was surveyed in north/south transects, approximately 8 to 10 meters apart. The exposed ground afforded excellent views of the soils and its composition. Remains of various agricultural equipment included black plastic pipe, PVC pipe fragments, and irrigation pipe valves with white PVC pipe markers, as well as a concrete block in the northwest section. Medium rounded gravels to small cobbles, and small rounded and sub-angular fragments of large red chert gravels were present with none culturally modified.

The soil varied across the property with the southern section darker than the north. In the south, soil is brownish gray silty clay, while the north it is brown silty clay. The soil comprising the mounds is

lighter-brown silty clay. The areas around the fences are covered in heavy vegetation with very limited soil visibility. The entrance at Camino Arroyo is covered in landscaped vegetation.

No archaeological sites have been recorded near the project site. The property was previously surveyed in 1981 under ideal conditions and was again inspected for this project. The dry bare soil over most of the project area afforded excellent survey conditions and represents not only the surface soils but to a depth of four to at least six feet deep based on current agricultural practices of multiple fluffings to plant a crop and to periodic ripping. The project area has a low potential for buried Native American resources or historic-era archaeological features.

4.5.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 as pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
3) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

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. **(No Impact)**

The site is undeveloped and currently utilized for agriculture. There are no eligible or listed CHRIS or local historic resources on or adjacent to the project site. Implementation of the proposed project would have no impact on any historic resources. **(No Impact)**

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 into the Project Design)**

The site has a low potential for containing prehistoric archaeological resources near the surface. Although unlikely, trenching and excavation of the site could damage unrecorded subsurface resources. The following measures would be incorporated into the project to reduce impacts to a less than significant level.

Mitigation Incorporated into the Project Design:

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

- A Secretary of the Interior-qualified archaeologist and a Native American cultural resources monitor shall be on site to monitor grading of native soil. The project applicant shall submit the name and qualifications of the selected archaeologist and Native American Monitor to the Director of Community Development prior to the issuance of a grading permit. Preference in selecting Native American monitors shall be given to Native Americans with:

    - Traditional ties to the area being monitored.
    - Knowledge of local historic and prehistoric Native American village sites.
    - Knowledge and understanding of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.
    - Ability to effectively communicate the requirements of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.
    - Ability to work with law enforcement officials and the Native American Heritage Commission to ensure the return of all associated grave goods taken from a Native American grave during excavation.
    - Ability to travel to project sites within traditional tribal territory.
    - Knowledge and understanding of Title 14, California Code of Regulations, Section 15064.5.
    - Ability to advocate for the preservation in place of Native American cultural features through knowledge and understanding CEQA mitigation provisions.
    - Ability to read a topographical map and be able to locate site and reburial locations for future inclusions in the Native American Heritage Commission's Sacred Lands Inventory.
    - Knowledge and understanding of archaeological practices, including the phases of archaeological investigation.

    Prior to grading, the archaeologist shall conduct a pedestrian survey over the exposed soils to determine if any surface archaeological manifestations are present.

- A qualified archaeologist shall complete mechanical presence/absence testing for archaeological deposits and cultural materials. In the event any prehistoric site indicators are discovered, additional backhoe testing will be conducted to map the aerial extent and depth below the surface of the deposits. In the event prehistoric or historic archaeological deposits are found during presence/absence testing, the significance of the find will be determined. If deemed significant, a Treatment Plan will be prepared and provided to the Director of Community Development. The key elements of a Treatment Plan shall include the following:

    - Identify scope of work and range of subsurface effects (include location map and development plan),

    - Describe the environmental setting (past and present) and the historic/prehistoric background of the parcel (potential range of what might be found),

    - Develop research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information),

- Detail field strategy used to record, recover, or avoid the finds (photogs, drawings, written records, provenience data maps, soil profiles, excavation techniques, standard archaeological methods) and address research goals.

- Analytical methods (radiocarbon dating, obsidian studies, bone studies, historic artifacts studies [list categories and methods], packaging methods for artifacts, etc.).

- Report structure, including a technical and layman's report and an outline of document contents in one year of completion of development (provide a draft for review before a final report),

- Disposition of the artifacts,

- Appendices: site records, update site records, correspondence, consultation with Native Americans, etc.]

The archaeologist will monitor full-time all grading and ground disturbing activities in native soils associated with construction of the proposed project. If the archaeologist and Native American monitor believe that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results shall be provided to the Director of Community Development. Department of Recreation 523 forms shall be submitted along with the report for any cultural resources encountered over 50 years old.

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

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

With implementation of the measures identified above, the project would not cause a substantial adverse change in the significance of an archaeological resource. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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 into the Project Design)**

Although unlikely, trenching and excavation of the site could disturb human remains, should they be encountered on the site. The following measures would be incorporated into the project to reduce impacts to a less than significant level.

Mitigation Incorporated into the Project Design:

PD CUL-2: The project proposes to implement the following measure to ensure the project's impacts to human remains are less than significant:

- In the event that human remains are discovered during presence/absence testing or excavation and/or grading of the site, all activity within a 50-foot radius of the find will be stopped. The Santa Clara County Coroner will be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. All actions taken under this mitigation measure shall comply with Health and Human Safety Code § 7050.5(b).

With implementation of the measure identified above, the project would not result in a significant impact related to the disturbance of human remains. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

4.6 ENERGY

The following discussion is based, in part, on information contained in an Air Quality Impact Assessment prepared by Trinity Consultants in November 2020. The report is included as Appendix C.

4.6.1 Environmental Setting

4.6.1.1 *Regulatory Framework*

Federal and State

Energy Star and Fuel Efficiency

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. In 2008, Executive Order 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.

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.[20] Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.[21]

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,

[20] California Building Standards Commission. "California Building Standards Code." Accessed November 24, 2020. https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo.
[21] California Energy Commission (CEC). "2019 Building Energy Efficiency Standards." Accessed November 24, 2020. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-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.[22]

Regional

2017 Clean Air Plan

The Bay Area Air Quality Management District (BAAQMD) 2017 Clean Air Plan (CAP) provides a regional strategy to protect public health and the climate. It includes a wide range of control measures designed to decrease air pollutant emissions, reduce greenhouse gas (GHG) emissions, and promote energy efficiency.[23]

Local

Gilroy 2040 General Plan

The General Plan includes the following energy policies that are applicable to the proposed project.

Policies	Description
NCR 3.1	**Energy Use and Data Analysis.** Increase building owner, tenant, and operator knowledge about how, when, and where building energy is used.
NCR 3.3	**Shade Tree Program.** Increase community-wide use of shade trees to decrease energy use associated with building cooling.
NCR 3.10	**Water Use Reduction.** Continue to implement water conservation policies contained within Gilroy's Urban Water Management Plan to achieve 20 percent per capita water reductions by 2020.
NCR 3.13	**Zero Waste.** Reduce municipal waste through procurement policies, waste diversion goals and waste stream monitoring and analysis.
PFS 2.3	**Sustainable Practices.** Minimize the generation of waste and maximize recycling programs, energy efficiency

[22] California Air Resources Board. "The Advanced Clean Cars Program." Accessed November 20, 2020. https://www.arb.ca.gov/msprog/acc/acc.htm.
[23] BAAQMD. *Final 2017 Clean Air Plan.* April 19, 2017. http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans.

Policies	Description
	and conservation, and environmental practices that reduce water, electricity and natural gas use, and vehicle fuel consumption.
PFS 2.6	**Leadership in Energy and Environmental Design (LEED).** Achieve the highest practicable LEED classification for all new public buildings.

4.6.1.2 *Existing Conditions*

Total energy usage in California was approximately 7,881 trillion British thermal units (Btu) in the year 2017, the most recent year for which this data was available.[24] Out of the 50 states, California is ranked second in total energy consumption and 48th in energy consumption per capita. The breakdown by sector was approximately 18 percent (1,416 trillion Btu) for residential uses, 19 percent (1,473 trillion Btu) for commercial uses, 23 percent (1,818 trillion Btu) for industrial uses, and 40 percent (3,175 trillion Btu) for transportation.[25] 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 2018 was consumed primarily by the commercial sector (77 percent), followed by the residential sector consuming 23 percent. In 2018, a total of approximately 16,668 gigawatt hours (GWh) of electricity was consumed in Santa Clara County.[26]

The community-owned Silicon Valley Clean Energy (SVCE) is the electricity provider for the City of Gilroy.[27] SVCE sources the electricity and the Pacific Gas and Electric Company (PG&E) delivers it to customers over their existing utility lines. Customers are automatically enrolled in the GreenStart plan and can upgrade to the GreenPrime plan. Both options are considered 100 percent GHG-emission free.

Natural Gas

PG&E provides natural gas services within the City of Gilroy. In 2018, approximately one percent of California's natural gas supply came from in-state production, while the remaining supply was imported from other western states and Canada.[28] In 2018, residential and commercial customers in California used 34 percent of the state's natural gas, power plants used 35 percent, the industrial sector used 21 percent, and other uses used 10 percent. Transportation accounted for one percent of

[24] United States Energy Information Administration. "State Profile and Energy Estimates, 2017." Accessed November 20, 2020. https://www.eia.gov/state/?sid=CA#tabs-2.
[25] United States Energy Information Administration. "State Profile and Energy Estimates, 2017." Accessed November 20, 2020. https://www.eia.gov/state/?sid=CA#tabs-2.
[26] California Energy Commission. Energy Consumption Data Management System. "Electricity Consumption by County." Accessed November 20, 2020. http://ecdms.energy.ca.gov/elecbycounty.aspx.
[27] Silicon Valley Clean Energy. "Frequently Asked Questions." Accessed November 20, 2020. https://www.svcleanenergy.org/faqs.
[28] California Gas and Electric Utilities. 2019 *California Gas Report.* Accessed November 20, 2020. https://www.socalgas.com/regulatory/documents/cgr/2019_CGR_Supplement_7-1-19.pdf.

natural gas use in California. In 2018, Santa Clara County used approximately 3.5 percent of the state's total consumption of natural gas.[29]

Fuel for Motor Vehicles

In 2018, 15.5 billion gallons of gasoline were sold in California.[30] 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 24.9 mpg in 2018.[31] 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 subsequently revised to apply to cars and light trucks model years 2011 through 2020. [32,33]

4.6.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

[29] California Energy Commission. "Natural Gas Consumption by County." Accessed November 20, 2020. http://ecdms.energy.ca.gov/gasbycounty.aspx.
[30] California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed November 20, 2020. https://www.cdtfa.ca.gov/dataportal/dataset.htm?url=VehicleTaxableFuelDist.
[31] United States Environmental Protection Agency. "The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975." March 2019.
[32] United States Department of Energy. *Energy Independence & Security Act of 2007.* Accessed November 20, 2020. http://www.afdc.energy.gov/laws/eisa.
[33] Public Law 110–140—December 19, 2007. *Energy Independence & Security Act of 2007.* Accessed November 20, 2020. http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf.

Impact EN-1:	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. **(Less than Significant Impact)**

Construction

Construction of the project would require energy for the manufacturing and transportation of building materials, site preparation and grading, and the construction of the buildings and infrastructure. As discussed in Section 4.3 Air Quality, the project would implement measures to reduce construction emissions by minimizing the idling of construction equipment. Additionally, the project would comply with the City's Construction and Demolition Waste Ordinance by recycling or diverting at least 50 percent of materials generated for discards by the project in order to reduce the amount of demolition and construction waste going to the landfill.

Operation

Operation of the GDC would consume energy for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Energy would also be consumed during each vehicle trip generated by employees and visitors. The GDC would be constructed in accordance with Title 24 and CALGreen standards, and would include green building measures to reduce energy consumption. The GDC 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. The GDC would be designed to achieve a minimum of LEED Silver certification.

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 = Total Facility Source Energy/ 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 every one (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 PUE for the GDC at full buildout of both buildings would be 1.18, which would be considered efficient. 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.[34]

Due to the energy efficiency measures incorporated into the facility, the GDC would not result in wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources.

Energy would also be consumed by the GBGF during regular testing and maintenance of the 53 emergency backup generators. Each generator would be limited to a maximum of 50 hours per year of operation. Based on fuel consumption assumptions in the air quality analysis prepared for the project (refer to Appendix C), the GBGF would consume roughly 248 gallons of fuel per generator, for a total of 13,144 gallons of fuel per year for generator maintenance and testing. According to the

[34] Uptime Institute. Annual Data Center Survey Results - 2019. Available at: https://datacenter.com/wp-content/uploads/2019/06/data-center-survey-2019.pdf

California Energy Commission's 2019 Weekly Fuel's Watch Report, the annual capacity of CARB Diesel Fuel in California was 1,736,000 barrels annually.[35] The proposed consumption of CARB Diesel Fuel by the GBGF would be less than 0.0075 percent of the total California capacity. Because the generators would only be operated when necessary for testing and maintenance, and would not be used regularly for electricity generation, the GBGF would not result in a wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. Additionally, the GBGF would not have a significant adverse effect on local or regional energy supplies and will 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)**

Impact EN-2:	The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact)**

The project would be consistent with the regulations described in 4.6.1.1 (including General Plan Policies) by:

- Complying with Title 24 and CalGreen;
- Adhering to the City's Construction and Demolition Debris Ordinance; and
- Incorporating lighting control, air economization, water conservation measures, and energy conservation measures.

The project, therefore, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact)**

[35] Addition of the total weekly Production Capacity and total weekly Refinery Stock reported for June 14, 2019.

4.7 GEOLOGY AND SOILS

This discussion is based, in part, on Geotechnical Desktop Review and Geotechnical Considerations reports prepared by Arup North America, Ltd (Arup), dated November 2019. These reports can be found in Appendices F and G respectively.

4.7.1 Environmental Setting

4.7.1.1 *Regulatory Framework*

State

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

Gilroy 2040 General Plan

The following General Plan policies related to geology are applicable to the proposed project:

Policies	Description
PH 1.1	**Location of Future Development** Allow development only in those areas where potential danger to the health, safety, and welfare of residents can be adequately mitigated to an acceptable level of risk. This applies to development in areas subject to flood damage, fire damage, or geological hazard due to their location and/or design
PH 1.10	**Hazard Maps** Maintain the most current seismic hazards maps for use in development review, in accordance with the State of California's Seismic Hazards Mapping Act.

4.7.1.2 *Existing Conditions*

The project site is located in the Santa Clara Valley, a relatively flat alluvial basin, bounded by the Santa Cruz Mountains to the southwest and west, the Diablo Mountain Range to the east, and the San Francisco Bay to the north.

Soil Conditions

The project site is underlain by alluvium soil. This alluvium consists of moderately consolidated, deeply weathered, poorly sorted, irregularly interbedded clay, silt, sand, and gravel. The topsoil contains agricultural organics primarily consisting of roots and hay. The subsurface soil conditions consist of an upper layer of lean clay, a granular layer, and a lower layer of lean clay. The upper layer of lean clay is brown in color, generally medium stiff to very stiff, with varying amounts of sand and gravel present. The thickness of this layer varies across the site, ranging from five to 20 feet thick.

The granular layer is generally dense, primarily consists of gravel, and contains varying amounts of sand and clay. The depth and extent of this layer varies across the site but was generally encountered between the depths of ten to 20 feet below the ground surface (bgs). The lower layer of lean clay had similar characteristics as the upper layer of lean clay. The extent of this layer is unknown.

Expansion Potential

The upper clay layer at the project site may have moderate expansion potential and therefore could experience some degree of volume change when subjected to changes in moisture content. An existing mound of stockpiled fill in the northeast corner of the site appears to have a similar or greater expansion potential than that of the upper clay layer.

Groundwater

The groundwater level was measured at 25 feet bgs. Historical geotechnical information near the site indicates that the groundwater level may vary between 17 to 39 feet bgs.

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 five major faults in the region are the Coyote Creek Fault (approximately 2.9 miles east of the site), Calaveras Fault (approximately 3.3 miles east of the site), the Carnadero Fault (approximately three miles west of the site), the Sargent Fault (approximately 4.25 miles west of the site), and the San Andreas Fault (approximately 8.4 miles west of the project site).[36] The project site is not located within a fault rupture zone.[37]

Liquefaction

Liquefaction occurs when loose, saturated sandy or silty soils are subjected to strong and rapid shaking from a seismic event. During a seismic event, loose soils tend to contract and a portion, if not all, of the soil shear strength is lost. The estimated liquefaction risk level for the project site is negligible to low.

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 stream channels on or adjacent to the site, therefore the project site would not be subject to lateral spreading.

[36] United State Geological Survey (USGS). "U.S. Quaternary Faults". Accessed October 21. 2020. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf

[37] Santa Clara County. "Santa Clara County Geologic Hazard Zones." April 24, 2020. Accessed October 21, 2020. https://www.sccgov.org/sites/dpd/OrdinancesCodes/GeoHazards/Pages/GeoMaps.aspx

Landslides

The project site and surrounding vicinity is flat. The project site is not within a landslide hazard zone.[38]

Paleontological Resources

The project site is currently developed with agricultural use. There are no known paleontological resources on the project site.

4.7.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) 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?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) 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?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) 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?	☐	☐	☐	☒

[38] USGS. "U.S. Landslide Inventory". Accessed October 21, 2020. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=ae120962f459434b8c904b456c82669d

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact GEO-1: 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. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

As discussed in Section 4.7.1.2 Existing Conditions, there are no known active or potentially active faults crossing the project site. The site is not located within an Earthquake Fault Zone as defined by the State of California Alquist-Priolo Earthquake Fault Zoning Act. The project site is not located within a fault rupture zone.

The estimated liquefaction risk level for the project site is negligible to low. The project site is not subject to lateral spreading due to its distance from stream channels. The project site and vicinity are relatively flat, the project site is not within a landslide hazard zone.

However, the project site is located in a seismically active region. The project would be required to be designed and constructed in accordance with standard engineering techniques and current California Building Code requirements, to avoid or minimize potential damage from seismic shaking and liquefaction on the site. The project would include the following project design measure to address seismic hazards due to strong ground shaking.

Mitigation Incorporated into the Project Design:

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

- 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 Gilroy's Building & Safety 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 2016 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.

With implementation of the identified mitigation measures, project impacts would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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

Construction of the project could result in soil erosion or the loss of topsoil during excavation and grading. With respect to the GBGF facility components, construction will involve limited ground disturbance as the site grading for the GDC will be completed prior to installation of the GBGF components. The only ground disturbance directly attributable to the GBGF will be the minor trenching for electrical interconnection to the GDC.

The project would be required to comply with General Plan Action 25.E which requires an erosion and deposition control plan for all new development detailing appropriate methods of erosion and deposition control during site development and subsequent use. In addition, the project would be required to comply with Gilroy Municipal Code Chapter six which requires a grading permit prior to ground-disturbing activities and calls for protection of slopes and the use of erosion and sediment controls on construction sites as necessary to protect water quality. Erosion control plans are subject to review and approval by the City of Gilroy Engineering Division prior to issuance of building permits.

Furthermore, the General Plan EIR concluded that with the regulatory programs currently in place, the possible impact of accelerated erosion during construction would be less than significant. Because the project would comply with the regulations identified in the General Plan EIR, implementation of the proposed project would not have a significant soil erosion impact. **(Less than Significant Impact)**

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)**

As previously stated, the project site and area are not subject to landslides and have a low potential for liquefaction and lateral spreading. Additionally, with the implementation of the standard engineering and seismic safety design techniques outlined in the California Building Code (refer to PD GEO-1), the project would not be located on an unstable geologic unit that would result in subsidence or collapse. The project would not exacerbate the existing geologic conditions or soils on

site. Therefore, 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)**

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 with Mitigation Incorporated into the Project Design)**

The upper clay layer at the project site may have moderate expansion potential and therefore could experience some degree of volume change when subjected to changes in moisture content. An existing mound of stockpiled fill in the northeast corner of the site appears to have a similar or greater expansion potential than that of the upper clay layer. Use of this fill soil could potentially exacerbate the risk of expansive soil on the project site. Standard engineering practices, as described in PD GEO-1 above, would ensure that the future site development is designed properly to account for soils-related hazards on the site. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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)**

The project would connect to existing sewer lines and does not propose the use of septic tanks. **(No Impact)**

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 into the Project Design)**

As previously stated, there are no known paleontological resources within the project site. However, there is a possibility that the project may uncover previously undiscovered paleontological resources during the grading and excavation phase of project construction. In the event that undiscovered paleontological resources are encountered during project construction, the following project design measure shall be incorporated to ensure that potential impacts to paleontological resources are avoided or reduced to a less than significant level.

Mitigation Incorporated into the Design of the Project:

PD GEO-2: The project proposes to implement the following measures to as best management practices to ensure impacts to paleontological resources are less than significant.

a) Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology, who is experienced in teaching non- specialists, to ensure they can recognize fossil materials and shall follow proper notification procedures in the event any

are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate its significance.

b) If a fossil is found and determined by the qualified paleontologist to be significant and avoidance is not feasible, the paleontologist shall develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall then be deposited in a scientific institution with paleontological collections. A final Paleontological Mitigation Plan Report shall be prepared that outlines the results of the mitigation program. The Director of Planning and Inspection shall be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented.

With implementation of PD GEO-2, impacts to potential undiscovered paleontological resources would be avoided or reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

4.8 GREENHOUSE GAS EMISSIONS

This discussion is based, in part, on an Air Quality Impact Assessment prepared by Trinity Consultants in November 2020. This study is included as Appendix C.

4.8.1 Environmental Setting

4.8.1.1 *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_2 equivalents (CO_2e). The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). 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_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 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_6 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.

4.8.1.2 *Regulatory Framework*

State

Assembly Bill 32

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_2E ($MMTCO_2e$). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 $MMTCO_2e$.

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 2040. Plan Bay Area 2040 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).

Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard (RPS) 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. In 2008, Executive Order 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.

Pacific Gas and Electric Company (PG&E) is currently planned by the applicant to be the electricity provider to the project site. PG&E's 2017 electricity mix was 33 percent renewable and as of 2019 is at least 75 percent carbon-free; thus, it has already met the requirements of Executive Order S-14-08.[39]

[39] PG&E. "Exploring Clean Energy Solutions". Accessed March 11, 2019 https://www.pge.com/en/about/newsroom/newsdetails/index.page?title=20180220_pge_clean_energy_deliveries_already_meet_future_goals

Regional and Local

2017 Clean Air Plan

To protect the climate, the 2017 CAP (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.

Gilroy 2040 General Plan

The General Plan includes the following energy policies that are applicable to the proposed project.

Policies	Description
NCR 3.1	**Energy Use and Data Analysis.** Increase building owner, tenant, and operator knowledge about how, when, and where building energy is used.
NCR 3.3	**Shade Tree Program.** Increase community-wide use of shade trees to decrease energy use associated with building cooling.
NCR 3.10	**Water Use Reduction.** Continue to implement water conservation policies contained within Gilroy's Urban Water Management Plan to achieve 20 percent per capita water reductions by 2020.
NCR 3.13	**Zero Waste.** Reduce municipal waste through procurement policies, waste diversion goals and waste stream monitoring and analysis.
PFS 2.3	**Sustainable Practices.** Minimize the generation of waste and maximize recycling programs, energy efficiency and conservation, and environmental practices that reduce water, electricity and natural gas use, and vehicle fuel consumption.
PFS 2.6	**Leadership in Energy and Environmental Design (LEED).** Achieve the highest practicable LEED classification for all new public buildings.

4.8.1.3 *Existing Conditions*

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 utilized for agriculture. GHG emissions generated by the existing uses on-site are primarily associated with agricultural equipment usage.

4.8.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

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 Gilroy, 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 BAAQMD guidance for stationary-sources such as the GBGF's backup generators, the threshold to determine the significance of an impact from GHG emissions is 10,000 metric tons of CO_2e 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 CO2e 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, such as electricity use and water delivery, associated with GDC operation would not be included for comparison to this threshold, based on guidance in the BAAQMD's CEQA Guidelines. Instead, GHG impacts from GDC operation would be considered to have a less than significant impact if the project is consistent with applicable regulatory programs and policies adopted by CARB or other California agencies.

Impact GHG-1:	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 GHG Emissions

GHG emissions from the GBGF would result from fuel usage associated with routine testing and maintenance of the generators. Direct emissions from the GDC would result from vehicle trips to and from the site, and indirect emissions would result from the generation of electricity used in the data center facility. 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.

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 = Total Facility Source Energy/IT Source Energy). For example, a PUE of two, means that the data center or laboratory must draw two watts of electricity for every one 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 theoretically ideal PUE is one where all power drawn by the facility goes to the IT infrastructure. The theoretical ideal PUE is unachievable since power must be drawn to cool the IT infrastructure and provide ancillary services to the building.

For the worst case day the peak PUE for the GDC at full buildout of both buildings would be 1.16 (Total 95.84 MW total electrical demand on Worst Case Day divided by 82.62 MW Total Critical IT Load). The average PUE for the GDC at full buildout of both buildings would be 1.18 (Total 85.5 MW demand of Building average conditions divided by 72.29 MW Expected Critical IT Load). The PUE of the GDC would be considered efficient. 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.[40]

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:

[40] Uptime Institute. Annual Data Center Survey Results - 2019. Available at: https://datacenter.com/wp-content/uploads/2019/06/data-center-survey-2019.pdf

- Reflective roof surface
- Meet or exceed Title 24 requirements
- Electric vehicle (EV) parking
- Low flow plumbing fixtures
- Landscaping would meet City of Gilroy requirements for low water use

Construction-Related Emissions

GHG emissions associated with construction were computed to be 1,979 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City of Gilroy nor BAAQMD have a threshold for construction emissions. These emissions would be temporary in nature and would be less than the indirect emissions associated with operation of the proposed uses. Construction emissions would occur during building construction, trenching and minor paving and landscape installation.

Implementation of PD AQ-1 would reduce construction emissions impacts by setting measures to control dust and exhaust. Additionally, the project would comply with the City's Construction and Demolition Debris Ordinance by recycling or diverting at least 50 percent of materials generated for discards by the project in order to reduce the amount of demolition and construction waste going to the landfill.

GBGF Stationary Equipment Emissions from Routine Testing

The consumption of diesel fuel to test generators at the GBGF would result in direct CO_2 emissions. On an annual basis, the project's total operational emissions related to emergency backup generator maintenance and testing use would be approximately 4,506 metric tons of CO_2e. See Appendix C for the GHG emission calculation data. This is well below the BAAQMD threshold for stationary sources of 10,000 metric tons per year of CO_2e for stationary sources.

GDC Operational Emissions

Project Electricity Usage

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. The projected maximum demand for the GDC is 96 MW. Although unlikely, the GDC could consume up to 840,960 MWh per year if it were to run at full capacity 100 percent of the time. Actual operating conditions are expected to result in the consumption of substantially less electricity than the potential maximum scenario. PG&E's carbon intensity factor for 2018 was determined to be 206 pounds of CO_2e per MWh.[41] Applying PG&E's carbon intensity factor to the potential maximum electricity consumption of the GDC would result in roughly 78,579 metric tons of CO2e per year.

[41] https://www.pgecorp.com/corp_responsibility/reports/2019/en02_climate_change.html. Accessed December 7, 2020.

Project Mobile and Area Source Emission

The project is estimated to generate roughly 150 round trips per day. Additionally, the project would result in emissions from area sources associated with building operations and site maintenance. Combined mobile and area source emissions are estimated to be 2,505 metric tons of CO2e per year.

GHG emissions generated by the project are summarized in Table 4.8-1.

Table 4.8-1: Annual Project GHG Emissions (CO_2e) in Tons/Yr

Source Category	Project Emissions
Direct Emissions[1]	
Mobile and Area Source	2,505
Generator Testing and Maintenance	4,506
Subtotal	7,011
Indirect Emissions[2]	
Energy Consumption (Maximum Data Center Electricity Demand)	78,579

[1]Source: Trinity Consultants. Air Quality Impact Assessment. November 2020.

[2] Based on PG&E's 2018 carbon intensity factor of 206 lbs. CO2/MWh. Assumes a conservative scenario where the project operates at maximum capacity (96 MW) 24 hours a day 365 days per year.

The emissions in Table 4.8-1 are separated into direct emissions and indirect emissions. Per the BAAQMD CEQA Guidelines, direct emissions refer to emissions produced from onsite combustion of energy, such as natural gas used in furnaces and boilers, emissions from industrial processes, and fuel combustion from mobile sources. Indirect emissions are emissions produced offsite from energy production and water conveyance due to a project's energy use and water consumption.

Although the project's indirect emissions are reported in this application, these emissions have already been accounted for at the emission source. For example, emissions associated with the project's electricity consumption occur at power production facilities within the PG&E (and outside suppliers) system. These emissions are accounted for and reported by PG&E pursuant to State GHG reporting regulations. Attributing these emissions to the proposed project is, therefore, a form of double counting. Nevertheless, to be conservative, the project's indirect emissions are included in the analysis of the project's GHG impacts.

As shown in Table 4.8-1, the primary source of GHG emissions from the GDC is energy consumption. As described above, electricity to the GDC would be provided by PG&E. To reduce GHG emissions and the use of energy related to building operations, the GDC includes a variety of energy efficiency measures, as described above. The GDC would comply with all applicable City and state green building measures, including Title 24, Part 6, California Energy Code baseline standard requirements for energy efficiency, based on the 2016 Energy Efficiency Standards requirements, and the 2016 California Green Building Standards Code, commonly referred to as CALGreen (California Code of Regulations, Part 11).

The GDC would receive electricity from a utility on track to meet the SB 32 2030 GHG emission reduction target, would include energy efficiency measures to reduce emissions to the extent feasible, and would be consistent with applicable plans and policies adopted to reduce GHG emissions. For all these reasons, the GDC would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. **(Less than Significant Impact)**

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)**

Bay Area 2017 Clean Air Plan

The Bay Area 2017 Clean Air Plan includes performance objectives, consistent with the State's climate protection goals under AB 32, SB 375, and SB 32, designed to reduce emissions of GHG emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030. The 2017 Clean Air Plan identifies a range of control measures that make up the Clean Air Plan's control strategy for emissions, including GHGs.

Due to the relatively high electrical demand of the data center uses on the site, energy efficiency measures have been included in the design and operation of the electrical and mechanical systems on the site. This is in keeping with the general purpose of Energy Sector Control Measures in the Clean Air Plan.

Plan One Bay Area/California Senate Bill 375 – Redesigning Communities to Reduce Greenhouse Gases

Under the requirements of SB 375, the Metropolitan Planning Organizations (MPO) in partnership with ABAG have developed a Sustainable Community Strategy with the adopted *Plan One Bay Area* to achieve the Bay Area's regional GHG reduction target. Targets for the MTC in the San Francisco Bay Area, originally adopted in September 2010 by CARB, include a seven percent reduction in GHG per capita from passenger vehicles by 2020 compared to emissions in 2005. The adopted target for 2035 is a 15 percent reduction per capita from passenger vehicles when compared to emissions in 2005. The emission reduction targets are for those associated with land use and transportation strategies only.

The project has a low concentration of employment and would not contribute to a substantial increase in passenger vehicle travel within the region.

Applicable State Climate Change Strategies and Policies

In 2008, the Governor of California issued Executive Order S-13-08 that specifically asked the Natural Resources Agency to identify how State agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. The 2009 California Climate Adaptation Strategy was developed in response to the executive order. Adaptation to projected sea level rise is addressed in Section 4.9 Hydrology and Water Quality.

The CARB-approved Climate Change Scoping Plan outlines a comprehensive set of actions intended to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health. Actions associated with energy efficiency standards and renewables portfolio standards are measures that would most greatly influence GHG emissions of the project over time.

The project would be generally consistent with the Climate Change Scoping Plan, as updated, and appropriate GHG Control Measures in the Bay Area 2017 Clean Air Plan (as discussed above).

As discussed above, the project would not conflict with plans, policies or regulations adopted for the purpose of reducing the emissions of GHG. Therefore, the project would not conflict with any currently adopted local plans, policies, or regulations pertaining to GHG emissions and would not generate GHG emissions that would have a significant impact on the environment. **(Less than Significant Impact)**

4.9 HAZARDS AND HAZARDOUS MATERIALS

This discussion is based, in part, on a Phase I Environmental Site Assessment and a Phase II Environmental Site Assessment prepared by ERM in January 2020 and November 2019, respectively, contained in Appendices H and I.

4.9.1 Environmental Setting

4.9.1.1 *Regulatory Framework*

Overview

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. Federal regulations and policies related to development include the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, and the Resource Conservation and Recovery Act. 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

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;

- 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 conducted only at sites listed on 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.[42]

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. The RCRA gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set 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 and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.[43]

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 substance release sites identified by the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB).[44]

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

[42] USEPA. "Superfund: CERCLA Overview." Accessed November 11, 2020. https://www.epa.gov/superfund/superfund-cercla-overview
[43] USEPA. "Summary of the Resource Conservation and Recovery Act." Accessed November 20, 2020. https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act
[44] CalEPA. "Cortese List Data Resources." Accessed November 20, 2020. https://calepa.ca.gov/sitecleanup/corteselist/

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 Gilroy, Chemical Control Program reviews CalARP risk management plans as the CUPA. City codes covered by the CUPA include the Fire Code Hazardous Materials Requirements, Hazardous Materials Storage Permit Requirements, and Industrial Wastewater Permit and Inspections for the South County regional Wastewater Authority (Sanitary Sewer Plant).

Regional and Local

Gilroy 2040 General Plan

The following General Plan policies related to geology and soils are applicable to the proposed project:

Policy	Description
PH 5.1	**Hazardous Materials and Waste Inspections** Provide inspections to ensure compliance with local, state, and federal regulations and to reduce the risks associated with the use, handling, and storage of hazardous materials and wastes
PH 5.2	**Hazardous Waste Reduction.** Minimize the potential hazards posed by the storage and transport of hazardous materials and waste by encouraging source reduction and waste minimization.
PH 5.6	**Hazardous Soils Conditions Cleanup.** Evaluate new development sites for potential hazardous soils conditions. In cases where contamination is identified, require that all necessary mitigation measures are incorporated into the project to ensure there is no public health danger. Where appropriate, refer the project to the proper County or State agency for review.

4.9.1.2 *Existing Conditions*

Current and Historic Use of the Project Site

The project site is currently tilled agricultural land. Two soil stock piles are located on the northeast and southeastern portions of the site. A former groundwater irrigation well is located on the northwest portion of the site as well.

Historical maps indicate that the site has consisted of agricultural land since at least 1939. Prior to that date the topographic maps since 1917 show no development on the site. A small structure on the northwest portion of the site, located near the groundwater well, was visible in historical aerial photographs from 1939 to 1982. According to the site contact, the southern stock pile has been present at the site since the mid-1980s. The origin of the southern stock pile is unknown. The northern stock pile was built up in two stages, the first possibly originating from commercial development of nearby properties in the early to mid-1980s. The second stage occurred approximately 18 months prior to ERM's site visit in October 2019, when the site accepted approximately 70,000 cubic yards of soil from an underground parking garage in Palo Alto.

On-Site Contamination

The project site is included on the Cortese List as an Irrigated Lands Regulatory Program Site (Irrigated Lands Site).[45] Agricultural land uses have the potential to contain contaminated soil primarily due to the use of pesticides, fertilizers, and other chemicals used in farming. During the Phase II site analysis, 60 soil samples were collected on-site, including the stockpiles of soil, that were compiled into 15 laboratory samples. These samples were analyzed for pesticides and heavy metals. In addition, 20 percent of the samples (three locations) were analyzed for herbicides, organophosphorus pesticides, and perchlorate. The soil piles were also analyzed for petroleum hydrocarbons.

Heavy Metals

Arsenic, cobalt, and nickel were present in some samples in excess of their respective Environmental Screening Levels (ESLs). Antimony and mercury were present above their natural background concentrations, but below their respective ESLs.

Organochlorine Pesticides

Dichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and dieldrin were all detected on-site. Only dieldrin was above the soil leaching to groundwater ESL. All pesticides were below the commercial land use and construction worker ESLs.

Petroleum Hydrocarbons

Low levels of total petroleum hydrocarbon (TPH)-diesel and TPH-motor oil were detected in the soil piles. Both were found below the groundwater protection, commercial land use, and construction worker ESLs.

Other Contaminants

Herbicides, organophosphorous pesticides, and perchlorate were not detected on-site. ERM noted that no significant potential sources of polychlorinated biphenyls (PCBs), lead-based paint (LBP), or asbestos-containing materials (ACMs) exist on-site.

Off-Site Contamination

ERM did not identify any significant sources of off-site contamination. Several neighboring sites are on the Cortese List. Adjacent sites included on the Cortese List are Irrigated Lands Sites. Adjacent Irrigated Lands Sites include fields south of the project site, along Gilman Road, owned by B&T Farms, Mission Ranches Company, and Thomas J. Obata Farms. Irrigated Lands Sites east of the project site include fields owned by C&F Farms, and B&T Farms.

[45] CalEPA. Cortese List Data Resources. Accessed November 23, 2020. https://calepa.ca.gov/sitecleanup/corteselist/

Other Hazards

Airports

The nearest public airport to the project site is the San Martin Airport, approximately 4.8 miles northwest of the project site. The project site is not located within the airport influence area or any of the safety zones for the San Martin Airport.[46]

Wildfire

The project is not located in or near a state responsibility area or lands classified as very high fire hazard severity zones.[47]

4.9.2 Impact Discussion

In addition to the checklist questions contained in the CEQA Guidelines, the checklist below includes thresholds of significance adopted by the City of Gilroy in its 2040 General Plan.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) 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?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) 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?	☐	☐	☒	☐

[46] County of Santa Clara. Comprehensive Land Use Plan Santa Clara County, South County Airport. November 16, 2016.
[47] California Department of Forestry & Fire Protection. Santa Clara County Very High Fire Hazard Severity Zones. October 8, 2008.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
e) 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?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐
City of Gilroy Adopted CEQA Thresholds				
h) For a project located within the South County Airport Comprehensive Airport Land Use Plan, prepared for the San Martin Airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

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)**

Operation of the GBGF would include the use and storage of diesel fuel in aboveground tanks beneath each block of generators. The tanks would be double-walled and have leak detection systems. Some oils and lubricants could be stored on-site for maintenance of mechanical equipment in the equipment yards. Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the proposed fuel storage tanks.

Hazardous materials storage at the proposed GDC would be regulated under local, state and federal regulations. A Hazardous Materials Business Plan would be completed for the safe storage and use of chemicals. **(Less than Significant Impact)**

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 into the Project Design)**

As discussed in Section 4.9.1.2 Existing Conditions, the soil on-site is known to be contaminated with heavy metals, organochlorine pesticides, and petroleum hydrocarbons. While most of the contaminants were found to be below their respective ESLs, there are levels of dieldrin that exceed the soil leaching to groundwater ESL. The project site is not within an important groundwater recharge zone (see Section 4.10 Hydrology and Water Quality for more details) and thus, the dieldrin on-site is not a significant hazard to public health through groundwater contamination. However, construction workers could be exposed to contaminated soil during grading and construction activities.

Mitigation Incorporated into the Project Design:

PD HAZ-1: The project proposes to implement the following measures which would reduce potentially significant soil and or groundwater impacts to construction workers to a less than significant level.

- A Site Management Plan (SMP) would 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 would include:
    - a detailed discussion of the site background;
    - 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 handing 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 Gilroy Planning Division.

- If contaminated soils are found in concentrations above risk-based thresholds pursuant to the terms of the SMP, remedial actions and/or mitigation measures would 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.

With implementation of the measures identified above, the proposed project would result in a less than significant soil contamination impact. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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. **(No Impact)**

The nearest school to the project site is South Valley Middle School, approximately 0.30 miles west of the project site. There are no proposed schools within one-quarter mile of the project site. Therefore, the project would not have any impacts within one-quarter mile of an existing or proposed school. **(No Impact)**

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, would it create a significant hazard to the public or the environment. **(Less than Significant Impact)**

As discussed in Section 4.9.1.2 Existing Conditions, the project site is included on the Cortese List as an Irrigated Lands Site. Any impacts associated with the historic agricultural use of the project site would be addressed by the mitigation measures included in Impact HAZ-2. These measures would also account for any contamination caused by the neighboring Irrigated Lands. The project would not cause a significant hazard to the public or the environment due to its location on an Irrigated Lands Site as designated on the Cortese List. **(Less than Significant Impact)**

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, result in a safety hazard or excessive noise for people residing or working in the project area **(No Impact)**

The project site is not located within an airport land use plan and, therefore, would not result in a safety hazard for people residing or working in the project area.[48] **(No Impact)**

[48] County of Santa Clara. Comprehensive Land Use Plan South County Airport. November 16, 2016.

Impact HAZ-6:	The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. **(Less than Significant Impact)**

The project would be constructed in accordance with current building and fire codes to ensure structural stability and safety in the event of a seismic or seismic-related hazard. In addition, the Gilroy Fire Department (GFD) would review the site development plans to ensure fire protection design features are incorporated and adequate emergency access is provided. For these reasons, the proposed project would not impair implementation of or physically interfere with the City's Emergency Operations Plan. **(Less than Significant Impact)**

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, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. **(Less than Significant Impact)**

As discussed in Section 4.9.1.2 Existing Conditions, the project site is not located within a very high fire hazard severity zone. The project vicinity is not particularly susceptible to wildland fires. The project would not create a significant risk of loss, injury, or death involving wildland fires. **(Less than Significant Impact)**

Impact HAZ-8:	The project would not be located within the South County Airport Comprehensive Airport Land Use Plan, prepared for the San Martin Airport, resulting in a safety hazard for people residing or working in the project area. **(No Impact)**

The project site is not located within the South County Airport Comprehensive Land Use Plan.[49] The Comprehensive Land Use Plan is intended to safeguard the general welfare of the inhabitants within the vicinity of South County Airport and the aircraft occupants. For this reason, the project would not result in a safety hazard for people residing or working in the project area. **(No Impact)**

[49] County of Santa Clara. Comprehensive Land Use Plan South County Airport. November 16, 2016.

4.10 HYDROLOGY AND WATER QUALITY

4.10.1 Environmental Setting

4.10.1.1 *Regulatory Framework*

Federal and State

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 EPA and the SWRCB have been developed to fulfill the requirements of this legislation. EPA regulations include the 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 Central Coast RWQCB (CCRWQCB).

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) and Storm Water Pollution Prevention Plan (SWPPP) must be prepared by a qualified professional prior to commencement of construction. 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

Phase II Small MS4 General Permit

Gilroy, Morgan Hill, and the portion of Santa Clara County that drains to the Pajaro River-Monterey Bay watershed, which includes the project site, are traditional permittees under the state's Phase II Small MS4 General Permit. Since these regions are located in RWQCB Region 3 (Central Coast Region), they are subject to the Central Coast Post-Construction Requirements per Provision E.12.k of the Phase II Permit. The Central Coast Post-Construction Requirements became effective in 2014 and are specific to the Central Coast Region. Post-construction controls are permanent features of a new development or redevelopment project designed to reduce pollutants in stormwater and/or erosive flows during the life of the project. Types of post-construction controls include low impact

development (LID) site design, pollutant source control, stormwater treatment, and hydromodification management measures. The LID approach reduces stormwater runoff impacts by minimizing disturbed areas and impervious surfaces, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g. rainwater harvesting for non-potable uses).[50]

Water Resources Protection Ordinance and District Well Ordinance

The Santa Clara Valley Water District (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.

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 California Department of Water Resources, Division of Safety of Dams (DSOD). The DSOD provide oversight to the design, construction, and maintenance of over 1,200 jurisdictional sized dams in California.[51] As part of its comprehensive dam safety program, Valley Water routinely monitors and studies the condition of each of its ten 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.

Local

Gilroy 2040 General Plan

The following General Plan policies related to hydrology and water quality are applicable to the proposed project:

Policy	Description
NCR 4.3	**Drinking Water Quality.** Ensure that City drinking water meets the required and recommended standard set forth by the State of California.

[50] City of Gilroy, City of Morgan Hill, and County of Santa Clara. *Stormwater Management Guidance Manual for Low Impact Development & Post-Construction Requirements*. June 2015.
[51] California Department of Water Resources. Division of Safety Dams. 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). Accessed November 19, 2020.

Policy	Description
PH 1.1	**Location of Future Development.** Allow development only in those areas where potential danger to the health, safety, and welfare of residents can be adequately mitigated to an acceptable level of risk. This applies to development in areas subject to flood damage, fire damage, or geological hazard due to their location and/or design.
PH 1.3	**Development Review.** Require appropriate studies as part of the development review process to assess potential hazards and assure that impacts are adequately mitigated.
PH 3.2	**Floodway Use.** Discourage the construction of expensive flood prevention facilities by leaving high-risk floodways in agricultural and recreational uses.
PH 3.6	**Permeable Surfaces for Runoff Reduction and Absorption.** Require new development to include landscaped areas for reducing runoff and increasing runoff absorption capabilities and encourage the use of permeable paving materials.

Storm Drainage System Master Plan

The City's Storm Drainage System Master Plan (Storm Water Master Plan) was prepared to recognize the importance of planning, developing, and financing storm drainage system facilities to provide reliable and enhanced service for existing customers and to serve anticipated growth.

4.10.1.2 *Existing Conditions*

Hydrology and Drainage

The project site is located in the Uvas/Llagas watershed.[52] The general topography of the project vicinity slopes southward and drains toward Miller Slough, which is ultimately conveyed to Llagas Creek. The project site is currently utilized for agriculture and thus consists primarily of pervious surfaces.

Groundwater

The City of Gilroy relies on groundwater from the underlying Llagas Groundwater Basin. The basin consists of sedimentary material between the Santa Cruz Mountains on the west and the Diablo Range on the East. According to the City's Water System Master Plan, the City withdraws groundwater from underground aquifers through nine wells with an effective production capacity of approximately 15.5 million gallons per day (gpd).[53] The project is not within a designated groundwater recharge zone.[54]

[52] Valley Water. "Watersheds of the Santa Clara Valley". Accessed November 18, 2020. https://www.valleywater.org/learning-center/watersheds-of-santa-clara-valley
[53] City of Gilroy. Water System Master Plan. May 2004. Page 4-1.
[54] Valley Water. Groundwater Management Plan. Figure 4-2. November 2016.

Flooding and Other Hazards

The project is located in Flood Zones X and AE. The northwestern corner and southern portion of the project site is located in Zone AE, while the rest is within Zone X.[55] Flood Zone X is an area of moderate flood risk that denotes a 0.2 percent chance of flood hazards. Flood Zone AE is classified as a high-risk area within the 100-year floodplain.

Due to the location of the project site, approximately 18 miles east of the Pacific Ocean and approximately 36 miles southeast of the San Francisco Bay (the nearest waterbodies susceptible to tsunami and seiche, respectively), it would not be subject to tsunami or seiche hazards.

4.10.2 Impact Discussion

In addition to the checklist questions contained in the CEQA Guidelines, the checklist below includes thresholds of significance adopted by the City of Gilroy in its 2040 General Plan.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) 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;	☐	☐	☒	☐

[55] FEMA. Flood Insurance Rate Map, Map Number 06085C0643H. Effective May 18, 2009.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
– 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?	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒
City of Gilroy Adopted CEQA Thresholds				
f) Place housing within a 100-year flood hazard area as mapped on Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
g) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact HYD-1:	The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. **(Less than Significant Impact)**

Construction

Construction activities (e.g., grading and excavation) on the project site may result in temporary impacts to surface water quality. When disturbance to underlying soils occurs, the surface runoff that flows across the site may contain sediments that are ultimately discharged into the storm drainage system. The project would comply with the NPDES Construction General Permit to control the discharge of stormwater pollutants including sediments associated with construction activities to a less than significant level. **(Less than Significant Impact)**

Operation

Development on-site would be required to comply with the City of Gilroy's Stormwater Management Plan, Santa Clara Valley Habitat Plan requirements (Table 6-2: Aquatic Avoidance and Minimization Measures), and the CCRWQCB's stormwater requirements, as applicable. Stormwater runoff from the proposed development would be required to drain into treatment areas prior to entering the storm drainage system consistent with CCRWQCB's post-construction requirements. The project would include a 201,000 bioretention stormwater treatment area along the eastern and southern boundaries of the project site. The site would be graded to direct stormwater into the bioretention treatment area via multiple storm drain inlet and pipe networks throughout the project site. The treatment area would include perforated underdrains and overflow structures that would ultimately discharge into the public storm drain line in Arroyo Circle near the southern property boundary.

Treatment facilities would be numerically sized and would have sufficient capacity to treat the roof runoff prior to entering the storm drainage system consistent with the City's Stormwater Management Plan. The treatment facilities would also be properly maintained to prevent erosion and invasive plant species consistent with the Santa Clara Valley Habitat Plan requirements. For these reasons, the project's compliance with the City's Stormwater Management Plan, Santa Clara Valley Habitat Plan requirements, and CCRWQCB's requirements would reduce stormwater quality impacts postconstruction to a less than significant level. **(Less than Significant Impact)**

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)**

As noted in Section 4.10.1.2 Existing Conditions, the project site is not located within a designated groundwater recharge zone. The proposed project is consistent with the land use designation of General Industrial assumed in the City's Water Master Plan. The project would add approximately 25 new acres of impervious surface area within the approximately 56-acre project site. Consistent with CCRWQCB's stormwater requirements, the project would include a biofiltration treatment system to collect and absorb runoff from the project site which could result in some potential recharge of groundwater.

Although the project would increase impervious surface area within the project site, on-site soils have limited infiltration based on preliminary soil borings as described in the Geotechnical Desktop Review (see Appendix F). Additionally, the project would be consistent with the City's Water Master Plan and would not obstruct a designated groundwater recharge zone. Therefore, 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)**

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 with Mitigation Incorporated into the Project Design)**

The project would not result in the alteration of the course of a stream or river. The project would increase impervious surface area on-site by approximately 25 acres (or approximately 45 percent). The project would be required to meet the standards specified in the City's Stormwater Management Guidance Manual for Low Impact Development and Post Construction Requirements (Post Construction Requirements) as well as demonstrate consistency with the City's Master Drainage Plan. The project would meet the Post Construction Requirements and be compliant with the Master Drainage Plan through site design measures that will minimize runoff by conveying runoff to self-treating areas and limiting disturbances to natural drainage features.

The project would introduce a series of low points onsite to promote runoff conveyance on the relatively flat site. Runoff would be conveyed to a biofiltration system that would treat stormwater on-site. Additionally, the project would be required to submit a Stormwater Pollution Prevention Plan (SWPPP) to the State Water Resource Control Board prior to construction. The project would connect to the existing 72-inch stormwater drain south of the project site, which would have adequate capacity to accommodate the proposed project. Therefore, the project would not substantially alter the existing drainage pattern of the site in a manner which would result in a substantial erosion or siltation, result in flooding, exceed the capacity of existing stormwater drainage systems, or provide substantial additional sources of polluted runoff.

As described previously, portions of the project site are within Flood Zone AE, which is within a 100-year flood hazard area. The project will require fill to raise the site above base flood elevation. Roughly 210,000 cubic yards of fill would be imported to the site to raise the base elevation by approximately four feet (1.5 feet above the base flood elevation). As a result, site grading and construction would alter the characteristics of the existing floodplain and could impede or redirect flood flows.

Mitigation Incorporated into the Project Design

PD HYD-1: Prior to issuance of a grading permit, a Conditional Letter of Map Revision-Fill (CLOMR-F) study shall be completed and submitted to FEMA for review and approval. After completing site grading or construction in the floodplain, a final LOMR-F study shall be completed and submitted to FEMA for review and approval to reflect the as-built conditions on the Flood Insurance Rate Map (FIRM).

Implementation of the identified measures would reduce impacts associated with impeding or redirecting flood flows to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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)**

As noted in Section 4.10.1.2 Existing Conditions, the project site is not subject to tsunamis or seiches. The project would include raised floor elevations to reduce flooding potential associated with the project's location within the AE Flood Zone. Therefore, the project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. **(Less than Significant Impact)**

Impact HYD-5:	The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. **(No Impact)**

As described previously, the project would be consistent with the City's Master Water Plan, Master Drainage Plan, and Stormwater Management Plan. The project would not obstruct implementation of these plans or other relevant water-related plans. **(No Impact)**

Impact HYD-6:	The project would not place housing within a 100-year flood hazard area as mapped on Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. **(No Impact)**

The project does not propose to construct any new housing. **(No Impact)**

Impact HYD-7:	The project would not place a structure within a 100-year flood hazard area, which would impede or redirect flood flows. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

As previously described, portions of the project site are within Flood Zone AE, which is within a 100-year flood hazard area. Implementation of PD HYD-1, as described in the discussion under Impact HYD-3, would reduce impacts associated with impeding or redirecting flood flows to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

Impact HYD-8:	The project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? **(Less than Significant Impact)**

As previously discussed, the project would include raised floor elevations to account for potential flooding within the 100-year flood hazard area. The project site is located within the Anderson Dam flood inundation area. However, the Anderson Dam is designed to meet special seismic design specifications and is regularly inspected and maintained by Valley Water. Therefore, the project would not expose people or structures to a significant risk of loss, injury, or death involving flooding. **(Less than Significant Impact)**

4.11 LAND USE AND PLANNING

4.11.1 Environmental Setting

4.11.1.1 *Regulatory Framework*

Local

Gilroy 2040 General Plan

The following General Plan policies related to land use are applicable to the proposed project:

Policies	Description
LU 1.5	**Uses East of U.S. 101**. Prohibit all residential uses on lands east of U.S. 101 and designate the area for industrial and agricultural uses, employment centers, compatible commercial development, and public and quasi-public facilities.
LU 5.1	**Industrial Design Standards.** Ensure that new industrial developments contribute to the overall attractiveness of the community through appropriate site design, architectural design, and landscaping.
LU 5.3	**Screening in Industrial Areas.** Encourage the screening of loading areas and open storage areas so that they are not visible from major roads.
NCR 1.1	**Habitat Plan Compliance.** For all covered activities throughout the city, comply fully with permit conditions of the Santa Clara Valley Habitat Plan. This will protect natural resources by minimizing impacts on sensitive natural communities and 18 covered species, facilitating wildlife movement, and establishing stream setbacks and buffers. Associated permit fees will be used for reserve system preservation, habitat enhancement and restoration, and adaptive management and monitoring.

Gilroy City Code Chapter 30 Zoning Ordinance

The City's Zoning Ordinance is intended to promote and protect the public health, safety, peace, comfort, convenience and general welfare. It is adopted to (a) assist in providing a definite comprehensive plan for sound and orderly development, and to guide and regulate each development in accordance with the general plan and its objectives and standards; (b) protect and improve the established character and the social and economic stability of agricultural, residential, commercial, industrial and other areas of Gilroy; (c) provide light, air, privacy and convenience of access to property; and to promote safety from fire and other dangers; (d) prevent overcrowding of land and undue congestion of population; (e) regulate the location of buildings and the use of buildings and land so as to prevent undue interference with existing or prospective traffic movements on public thoroughfares; (f) prezone unincorporated territory adjoining the city for the purpose of determining the zoning that shall apply to such property in the event of subsequent annexation to the city.

Santa Clara Valley Habitat Plan/Natural Community Conservation Plan

The Santa Clara Valley Habitat Plan/Natural Community Conservation Plan (Habitat Plan) is a conservation program intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth in approximately 500,000 acres of southern Santa Clara County. As discussed in Section 4.4 Biological Resources, the project site is designated as *Grain, Row-crop, Hay and Pasture, Disked / Short-term Fallowed* land cover and is located in Fee Zone B (Agricultural and Valley Floor Lands).

4.11.1.2 *Existing Conditions*

Project Site

The project site (APN 841-69-039) is located at the south end of Camino Arroyo. Although the site is currently utilized for agricultural purposes, the site is zoned *M-2 General Industrial*, which allows data processing establishments with an unconditional permit. The project site is designated *General Industrial* under the City's General Plan. The purpose of this land use designation is to provide areas for heavy industrial uses. The site is bound by Camino Arroyo to the north, agricultural uses to the south and east, and US Route 101 and commercial uses to the west.

Surrounding Land Uses

Development in the area generally consists of commercial, industrial, and agricultural land uses. Surrounding land uses include active agricultural lands to the east, active agricultural land and one-story commercial buildings to the south, and one-story commercial and industrial buildings to the west and north (refer to Figure 3.2-3). The General Plan land use designations and zoning of the surrounding area are summarized in Table 4.11-1.

Table 4.11-1: Land Uses Surrounding the Project Site

Direction	General Plan Designation	Zoning District	Existing Use
North	General Industrial and General Services Commercial	C3 Shopping Center Commercial and M2 General Industrial	Commercial and industrial uses
South	General Industrial and Open Space	M2 General Industrial	Medical and open space
East	Open Space	M2 General Industrial	Open space and agricultural
West	General Industrial and General Services Commercial	C3 Shopping Center Commercial and M2 General Industrial	Commercial and industrial uses

4.11.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan (i.e., Santa Clara Valley Habitat Plan) or natural community conservation plan?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact LU-1: The project would not physically divide an established community. **(No Impact)**

A physical division of an established community typically refers to the construction of a physical feature (such as a wall, roadway, or railroad tracks) or the removal of a means of access (such as a local roadway or bridge) that would impair mobility within an existing community for between communities. The project proposes to redevelop the project site with a data center facility. The project does not propose physical structures or features that would impair mobility or divide an established community. **(No Impact)**

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)**

City of Gilroy General Plan

The project site is designated *General Industrial* under the City's General Plan. The purpose of this land use designation is to provide areas for heavy industrial uses. The proposed project would be consistent with this designation. The proposed FAR of the GDC would be 0.18, which is within the maximum allowed FAR of 2.0 specified in the General Plan for this land use.

City of Gilroy City Code

The project site is zoned *M2-General Industrial* under the City's Code. As described previously, data processing establishments are permitted in this designation with an unconditional use permit. The maximum permitted building height within this zone is 75 feet. The project would reach a maximum

height of 45 feet, including parapets, and would be within the maximum allowed height for this land use. Noise generated by the project would not exceed restrictions in the City's Zoning Ordinance (see Section 4.12 *Noise*). The proposed project, therefore, would not conflict with the City's Zoning Ordinance.

The proposed project would be consistent with the General Plan and Zoning designations on the site. Furthermore, the proposed project would be designed in accordance with the City of Gilroy's design guidelines. The guidelines address design aspects including building setback and height, parking requirements, and landscaping. For these reasons, the project's land use impacts would be less than significant. **(Less Than Significant Impact)**

Impact LU-3:	The project would not conflict with any applicable habitat conservation plan (i.e., Santa Clara Valley Habitat Plan) or natural community plan. **(Less than Significant Impact)**

As discussed in Section 4.4 Biological Resources, a Habitat Plan application would be submitted and applicable fees would be paid by the project applicant prior to the issuance of a grading permit. With the application and fee submittal approval, the project would comply with the Santa Clara Valley Habitat Plan, and therefore would have a less than significant impact. **(Less Than Significant Impact)**

4.12 MINERAL RESOURCES

4.12.1 Environmental Setting

4.12.1.1 *Regulatory Framework*

State

Surface Mining and Reclamation Act

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.

4.12.1.2 *Existing Conditions*

The Uvas Creek area of Gilroy is the only area within the City of Gilroy that is designated by the State Mining and Geology Board as containing mineral deposits of regional significance. The project site is approximately 1.9 miles northeast of the Uvas Creek area.

4.12.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) 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?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

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)**

The Uvas Creek area of Gilroy is the only area within the City of Gilroy that is designated by the State Mining and Geology Board as containing mineral deposits of regional significance. The project site is not on or adjacent to Uvas Creek. The project would not result in the loss of availability of a known mineral resource. **(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)**

Uvas Creek area is the only locally important mineral resource recovery site within the City of Gilroy (General Plan policy 23.06). The project site is not on or adjacent to Uvas Creek. Therefore, 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)**

4.13 NOISE

The following discussion is based, in part, on an Environmental Noise and Vibration Assessment prepared by Trinity Consultants, dated October 2020. This assessment may be found in Appendix J.

4.13.1 Environmental Setting

Noise

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.[56] 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.

[56] 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}.

4.13.1.1 *Regulatory Framework*

Federal

Federal Transit Administration Vibration Limits

The Federal Transit Administration (FTA) has developed vibration impact assessment criteria for evaluating vibration impacts associated with transit projects. The FTA has proposed vibration impact criteria based on maximum overall levels for a single event. The impact criteria for groundborne vibration are shown in Table 4.13-1 below. These criteria can be applied to development projects in jurisdictions that lack vibration impact standards.

Table 4.13-1: Groundborne Vibration Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB inch/sec)		
	Frequent Event	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations	65	65	65
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83

Source: Federal Transit Administration. *Transit Noise and Vibration Assessment Manual.* September 2018.

State and Local

California Green Building Standards Code

For commercial uses, CalGreen (Section 5.507.4.1 and 5.507.4.2) requires that wall and roof-ceiling assemblies exposed to the adjacent roadways have a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the commercial property falls within the 65 dBA L_{dn} or greater noise contour for a freeway or expressway, railroad, or industrial or stationary noise source. The state requires interior noise levels to be maintained at 50 dBA $L_{eq(1\text{-}hr)}$ or less during hours of operation at a proposed commercial use.

Local

Gilroy 2040 General Plan

The following outdoor noise standards are identified in the General Plan as permissible for maximum outdoor day-night average noise levels.

City of Gilroy Permissible Maximum Outdoor Noise Levels	
Land Use Category	Maximum Outdoor Ldn (dBA)
Residential[1]	60
Commercial	65
Industrial	76

Notes:
Ldn = The Day/Night Average Sound Level. Day-night average sound level-the 24 hour A-weighted equivalent sound level, with a 10 decibel penalty applied to nighttime levels.

[1] The Outdoor sound levels for residential properties shall be held to 60-dBA LDN, or a maximum of 70-dBA if ALL of the following FINDINGS can be made:

- That feasible sound attenuation measures have been incorporated in the project design;
- That potential noise levels are part of the developer's disclosure to future residents;
- That interior noise limits established by the General Plan are strictly maintained; and
- Potential noise levels will not jeopardize the health, safety, and general welfare of the public.

4.13.1.2 *Existing Conditions*

A noise monitoring survey was performed within multiple locations of the proposed facility to quantify and characterize ambient noise levels at the site and in the surrounding area. The survey included two long-term measurement locations and six short-term measurement locations, as shown in Figure 4.13-1. The predominant sources of noise in the project vicinity included traffic on Highway 101 and nearby industrial and commercial facilities.

Long-term measurement location one, near the southwestern corner of the project site, had a Ldn ranging from 59 to 73 dBA. The short-term measurement at this location recorded L_{eq} values of 54 dBA for both daytime and nighttime. The L_{max} was also consistent across the daytime and nighttime measurements with values of 64 and 65 dBA, respectively. Long-term measurement location two, adjacent to the RV dealer at 7900 Arroyo Circle, had a Ldn ranging from 59 to 60 dBA. The short-term measurement at this location recorded L_{eq} levels at 54 and 56 dBA and L_{max} levels at 62 and 67 dBA for daytime and nighttime, respectively.

L_{eq} was measured at 50 and 53 dBA for daytime and nighttime levels, respectively, at location three (near the existing dead-end of Camino Arroyo). The L_{max} levels at this location were measured at 67 and 63 dBA for daytime and nighttime, respectively.

L_{eq} was measured at 52 and 54 dBA for daytime and nighttime levels, respectively, at location four (in the approximate center of the site). The L_{max} levels at this location were measured at 62 and 71 dBA for daytime and nighttime, respectively.

L_{eq} was measured at 50 and 49 dBA for daytime and nighttime levels, respectively, at location five (the southeastern corner of the site). The L_{max} levels at this location were measured at 62 and 70 dBA for daytime and nighttime, respectively.

Source: Trinity Consultants, November 2020.

AMBIENT NOISE MEASUREMENT LOCATIONS

FIGURE 4.13-1

4.13.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
1) Exposure of persons to or generation of noise levels in excess of standards established in the general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
2) Exposure of persons to or 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?	☐	☐	☐	☒
City of Gilroy Adopted CEQA Thresholds				
4) Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact NOI-1: The project would not result in 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? **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

Operational Noise

General Plan Policy 26.02 establishes maximum permissible outdoor and indoor noise levels at residential, commercial, and industrial uses, as noted in Section 4.13.1.1 Regulatory Framework. Project operations would be prohibited from generating outdoor noise levels of 60 dBA Ldn at the nearest residences, 65 dBA Ldn at the nearest commercial uses, and 76 dBA Ldn at the nearest industrial use. Project operations would be prohibited from generating indoor noise levels of 45 dBA Ldn at the nearest residences, 61 dBA Ldn at the nearest commercial uses, and 65 dBA L10 (exceed 65 dBA for 10 percent or greater of any hour) at the nearest industrial use. The receptors in the project vicinity are shown and labeled in Figure 4.13-2.

Source: Trinity Consultants, November 2020.

NOISE AND VIBRATION RECEPTORS

FIGURE 4.13-2

Operational sources of noise would include exhaust fans, air handling units, roof-top condensing units, substation transformers, and backup generators. While most of the equipment would operate 24 hours a day, the backup generators would only be tested during daytime hours. Trinity Consultants analyzed normal operations and operations with testing of one backup generator, referred to as maintenance operation. Both scenarios were analyzed at the worst-case of all equipment running continuously and simultaneously. The normal and maintenance scenarios were found to have identical sound level impacts at all receptors. Table 4.13-2 summarizes the results of the operational noise analysis.

Table 4.13-2: Normal and Maintenance Operation Sound Level Impacts

Receptor	Description	Normal and Maintenance Operation Sound Impact L_{dn} (dBA)	Applicable Outdoor Noise Criteria L_{dn} (dBA)	Compliant with Noise Criteria?
R1	Residential Detached Dwelling	57	60	Yes
R2		58		Yes
R3		56		Yes
I1	Renz & Renz Investment & Commercial Brokerage Red Roots Baby Nutritional Care Williams Dental Lab	60	76	Yes
I2	Kaiser Permanente Gilroy Medical Offices	61		Yes
I3	Specialty Truck Parts	65		Yes
I4	USA Sports Gilroy	65		Yes
I5	Gilroy Unified School District	64		Yes
I6	Ruggeri-Jensen-Azar	62		Yes
I7	Spectrum	61		Yes
I8	Morgan Hill Plastics Inc. of Gilroy	58		Yes
C1	See Grins RV Sales	64	65	Yes
C2	Multiple Retail Stores	58		Yes

Table 4.13-2: Normal and Maintenance Operation Sound Level Impacts				
Receptor	**Description**	**Normal and Maintenance Operation Sound Impact L_{dn} (dBA)**	**Applicable Outdoor Noise Criteria L_{dn} (dBA)**	**Compliant with Noise Criteria?**
C3		56		Yes
C4	Days Inn by Wyndham Gilroy	51		Yes
C5	Gilroy Healthcare and Rehabilitation Center	54		Yes

As shown in **Table 4.13-2**, normal and maintenance operation of the project would not generate noise in excess of the applicable outdoor noise thresholds at the nearby receptors. Therefore, noise generated by the project's operation would be less than significant.

Project Construction

Project construction would occur in two phases. Each phase was analyzed in sub-scenarios of 1) demolition, site preparation, and grading; 2) concrete/foundation, structural/building exterior/roof; and 3) site work and paving, infrastructure construction. The Phase II analysis also accounts for the operational equipment of Phase I that would be active during the construction of Phase II. The results showed that all construction phases and scenarios are anticipated to be compliant with the respective noise criteria at each receptor, with the exception of the foundation and building exterior construction of both phases. Both phases exceeded the applicable noise thresholds during the foundation and building exterior construction at receptors R1, R3, and C1. The primary contributing factor to the noise exceedance is the use of pile drivers instead of auger cast piles.

Mitigation Incorporated into the Project Design

PD NOI-1: The project shall incorporate the following measures to reduce the noise impact associated with the use of pile drivers:

- A barrier shall be included for the duration of pile driving activities with the following specifications for Phase I construction, or alternatively utilize auger cast piles instead of driven piles.
    - Barrier 1: 330 feet in length, 10 feet tall
    - Barrier 2: 165 feet in length, 10 feet tall
    - Barriers shall be placed in the locations specified by Trinity Consultants in Figure 4.7 of Appendix J.
- A barrier shall be included for the duration of pile driving activities with the following specifications for Phase II construction, or alternatively utilize auger cast piles instead of driven piles.
    - Barrier 3: 560 feet in length, 13 feet tall

- Barrier 3 shall be placed in the location specified by Trinity Consultants in Figure 4.9 of Appendix J.

With implementation of the measures above, the project would result in a less than significant impact due to construction noise. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

Impact NOI-2: The project would not result in generation of excessive groundborne vibration or groundborne noise levels? **(Less than Significant Impact)**

Construction Vibration

Construction activity may result in various levels of ground vibration, depending on the equipment and methods used. The City of Gilroy does not specify a construction vibration limit. For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for modern commercial and industrial structures and a vibration limit of 0.25 in/sec PPV for historic structures. Trinity Consultants calculated a more conservative threshold of 0.12 in/sec PPV for buildings extremely susceptible to vibration damage using the FTA's Transit Noise and Vibration Impact Assessment Manual.

Pile drivers are typically the most powerful source of vibration during construction (1.518 in/sec at 25 feet). To give a conservative construction vibration analysis, the level of vibration to be experienced by each potential receptor in the project vicinity was calculated during pile driving. **Table 4.13-3Table 4.13-3** summarizes the results of this analysis.

Table 4.13-3: Pile Driver Vibration Impacts

Receptor	Approximate Separation Distance (feet)	Vibration Impact (in/sec)	Vibration Damage Threshold (in/sec)	Vibration Impact Below Damage Threshold?
R1	1400	0.0036	0.12	Yes
R2	1300	0.0040		Yes
R3	1700	0.0027		Yes
I1	850	0.0077		Yes
I2	650	0.0115		Yes
I3	520	0.0160		Yes
I4	520	0.0160		Yes
I5	520	0.0160		Yes
I6	590	0.0132		Yes
I7	820	0.0081		Yes
I8	1110	0.0051		Yes
C1	330	0.0317		Yes

Table 4.13-3: Pile Driver Vibration Impacts				
Receptor	**Approximate Separation Distance (feet)**	**Vibration Impact (in/sec)**	**Vibration Damage Threshold (in/sec)**	**Vibration Impact Below Damage Threshold?**
C2	1200	0.0046		Yes
C3	1300	0.0040		Yes
C4	2600	0.0014		Yes
C5	1700	0.0027		Yes

As shown in **Table 4.13-3**, vibration impacts from pile driving would be below the conservative threshold for vibration damage for extremely fragile buildings at all receptors. Therefore, the project would not generate excessive groundborne vibration or noise levels. **(Less than Significant Impact)**

Impact NOI-3: The project would not be 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 and, therefore, would not expose people residing or working in the project area to excessive noise levels **(No Impact)**

The project would not be located within the South County Comprehensive Airport Land Use Plan and thus, would be located well outside of the San Martin Airport's 55 CNEL noise contour.[57] Therefore, the project would not expose people working in the project area to excessive noise levels. **(No Impact)**

Impact NOI-4: The project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

As discussed in Impact NOI-1, the project would not exceed the applicable noise thresholds during project construction with mitigation incorporated. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

[57] County of Santa Clara. Comprehensive Land Use Plan South County Airport. November 16, 2016.

4.14 POPULATION AND HOUSING

4.14.1 Environmental Setting

4.14.1.1 *Regulatory Framework*

State

Housing-Element Law

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.[58] The City of Gilroy's Housing Element and related land use policies were last updated in 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).[59]

The Association of Bay Area Governments (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, the Metropolitan Transportation Commission (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).

4.14.1.2 *Existing Conditions*

According to the California Department of Finance data, the City had a population of approximately 57,084 residents as of January 1, 2020.[60] ABAG projects the Gilroy population to be 61,935 in 2030.[61] The City has already surpassed ABAG's population projections for 2020 and 2025.

[58] California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed October 20, 2020. http://hcd.ca.gov/community-development/housing-element/index.shtml.
[59] Association of Bay Area Governments and Metropolitan Transportation Commission. "Project Mapper." http://projectmapper.planbayarea.org/. Accessed October 20, 2020.
[60] State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2019 and 2020. May 2020.

The job/housing ratio quantifies the relationship between the number of housing units required as a result of local jobs and the number of residential units available in the City. When the ratio reaches 1.0, a balance is struck between the supply of local housing and local jobs. The jobs/housing ratio is determined by dividing the number of local jobs by the number of employed residents that can be housed in local housing. With approximately 20,945 employed residents and approximately 18,330 jobs, the City of Gilroy has more employed residents than jobs with a ratio of approximately 0.88 jobs per employed resident.[62] This means that many of Gilroy's residents must seek employment outside of the community. ABAG predicts that Gilroy will continue to have more employed residents than jobs through 2040.[63]

The project site is currently occupied by agricultural land. There are no residences on the project site.

4.14.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) 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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact POP-1: 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). **(Less than Significant Impact)**

The project would replace the existing agricultural land on the site with a data center and associated backup generating facility. The GDC would require a total of approximately 50 full time employees and up to 74 contractors that may be employed on occasion to complete special maintenance related projects. The GBGF would not have any dedicated employees. The project would be a relatively low employment-generating land use; 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

[61] Association of Bay Area Governments: Plan Bay Area Projections 2040. November 2018.
[62] Ibid
[63] Ibid

substantially alter the City's job/housing ratio and would, therefore, result in a less than significant population and housing impacts. **(Less than Significant Impact)**

Impact POP-2:	The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

The existing project site does not contain any residences and, therefore, the project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

4.15 PUBLIC SERVICES

4.15.1 Environmental Setting

4.15.1.1 *Regulatory Framework*

State

Government Code Section 66477

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

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.

Gilroy 2040 General Plan

The following General Plan policies related to public services are applicable to the proposed project:

Policy	Description
PFS 1.10	**Facility and Service Funding.** Ensure that new development bears the cost for incremental public facilities and services costs it generates.
PFS 1.11	**Development Impact Fees.** Require applicants for new development to pay Development Impact Fees for traffic circulation, water, wastewater, storm water and public facilities to offset the costs of expanding these as detailed by the impact fee nexus study.
PFS 9.2	**Standards of Service.** Provide and maintain police services that are adequate in staffing, equipment, and resources to respond to emergencies and calls for service as the city continues to grow. Measurable standards of level of service shall be established by the City Council in the biennial budget and be aligned with National Best Practices. City staff shall annually report on actual performance compared against the established standards.
PFS 9.3	**Development Review.** Include the Police Department in the review of development proposals to ensure that crime and safety issues are consistently addressed in the review of new development. Such review shall promote the implementation of Crime Prevention through Environmental Design principles.
PFS 10.1	**Standards of Service.** Provide and maintain fire services that are adequate in staffing, equipment, and resources to respond to emergencies and calls for service as the city continues to grow. Measurable standards of levels of service shall be established by the City Council in the biennial budget and be aligned with National Best Practices. City staff shall annually report on actual performance compared against the established standards.
PFS 10.3	**Development Review.** Under the direction and authority of the Fire Chief, the Fire Marshall shall review of development proposals to ensure that projects adequately address fire access and building standards.
PFS 10.5	**New Development.** Continue to require that new development provides all necessary water service, fire hydrants, and roads consistent with Fire Department standards.
PFS 10.6	**Sprinklers.** Continue to require installation of sprinklers in all new buildings in accordance with the California Fire Code.
PFS 10.8	**Fire Access Design and Building Materials.** Require all new development to include use of fire-resistant landscaping and building materials and adequate access for fire equipment.
PFS 11.4	**School Impact Fees.** Continue to collect new development fees as established by the GUSD, in accordance with State law.

4.15.1.2 *Existing Conditions*

Fire Protection Services

Fire protection services for the project site are provided by the Gilroy Fire Department (GFD). The GFD responds to all fires, hazardous materials spills, and medical emergencies (including injury accidents) in the City. The closest station to the project site is the Las Animas Station located at 8383 Wren Avenue, approximately 1.9 miles west of the project site.[64] The General Plan identifies a service goal of a total response time of five minutes.[65]

Police Protection Services

Police protection services for the project site are provided by the Gilroy Police Department (GPD), which is headquartered at 7301 Hanna Street, approximately 2.3 miles southwest of the project site. The General Plan identifies a service goal of 4.5 minutes or less for all calls.[66]

Schools

The project site is located in the Gilroy Unified School District (GUSD). The school district operates 16 schools (eight elementary, three middle schools, four high schools, and one adult education program) serving over 11,000 students.[67] The nearest schools to the project site are Eliot School, located at 475 Old Gilroy Street (approximately 1.6 miles south of the project site), South Valley Middle School, located at 385 Ioof Avenue (approximately 1.4 miles southwest of the project site), and Mt. Madonna High School, located at 8750 Hirasaki Court (approximately 2.5 miles west of the project site).

Parks

The City of Gilroy currently operates 17 parks, one open space preserve, one tot lot, six community centers, and four recreation facilities. The City's Recreation Department is responsible for development, operation, and maintenance of City park facilities. The nearest public park is San Ysidro Park, located at 7700 Murray Avenue, approximately 1.5 miles southwest of the project site. San Ysidro Park includes basketball and handball courts, a jogging path, a playground, and picnic areas.

Libraries and Community Centers

The City of Gilroy is served by the Santa Clara County Library District. The Santa Clara County Library District consists of eight branch libraries and one mobile bookmobile.[68] The nearest public

[64] City of Gilroy. "Fire Stations." Accessed November 3, 2020. https://www.cityofgilroy.org/754/Fire-Stations
[65] City of Gilroy. *Gilroy General Plan 2020*. June 2002.
[66] Ibid
[67] Gilroy Unified School District. "About Us and Contact Us." https://www.gilroyunified.org/about-us-and-contact-us Accessed November 3, 2020.
[68] Santa Clara County Library District. "Find a Location." https://sccl.bibliocommons.com/locations/?_ga=2.192404706.995670849.1590684376-1030697244.1590684376 Accessed November 3, 2020.

library is the Gilroy Branch Library at 350 West Sixth Street, approximately 2.1 miles southwest of the project site. The nearest community center is the Wheeler Community Center, located at 270 West Sixth Street, approximately 2.1 miles southwest of the project site.

4.15.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:				
a) Fire Protection?	☐	☐	☒	☐
b) Police Protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☒	☐
e) Other Public Facilities?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact PS-1:	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. **(Less than Significant Impact)**

The project site is currently served by the GFD. The proposed project may result in an increase in the need for fire services associated with increased building area 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 GFD 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)**

Impact PS-2:	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. **(Less than Significant Impact)**

The project site is currently served by the GPD. The project may result in an incremental increase in the need for police services associated with increased building area but would not require the construction of new facilities or stations. The GPD 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 rations, response times or other performance objectives for police protection services. **(Less than Significant Impact)**

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)**

The project proposes to construct a data center facility, not a residential use, and would therefore not generate students. The project, therefore, would not require new or expanded school facilities, the construction of which could cause environmental impacts. **(No Impact)**

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)**

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 use would not create the need for any new facilities or adversely impact the physical condition of existing facilities. **(Less than Significant Impact)**

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. **(Less than Significant Impact)**

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 other local public facilities such as libraries or community centers; however, this would not create the

need for any new facilities or adversely impact the physical condition of existing facilities. **(Less than Significant Impact)**

4.16 RECREATION

4.16.1 Environmental Setting

4.16.1.1 *Regulatory Framework*

State

Government Code Section 66477

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.

Regional and Local

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.

Gilroy 2040 General Plan

The following policies are specific to recreation and are applicable to the proposed project:

Policy	Description
PR 1.4	**Park Land Standard.** Maintain the City's established standard of five acres of developed park land per thousand population. a) This standard includes neighborhood/school parks, community and community/school parks, sports parks, trails/linear parkways, and special use facilities. b) Park preserves and limited active recreation use areas are valued at five percent of their total acreage toward meeting this standard. c) Golf courses, non-accessible open spaces, and private recreational facilities are not included in this standard. School lands are not included unless there is a long-term lease agreement for their use as City recreational facilities.
PR 1.19	**Public Connections.** Encourage new developments to include visible, public connections to parks, trails, and recreation facilities when such public access would improve the connections for current and future users.

4.16.1.2 *Existing Conditions*

As previously stated, the City of Gilroy owns and maintains 17 parks, one open space preserve, one tot lot, six community centers, and four recreation facilities. The City's Recreation Department is responsible for development, operation, and maintenance of City park facilities. The nearest public park to the project site is San Ysidro Park, located at 7700 Murray Avenue, approximately 1.5 miles southwest of the project site, across the U.S. Highway 101. San Ysidro Park includes basketball and handball courts, a jogging path, a playground, and picnic areas.

The nearest recreational facility to the project site is the Gilroy Youth Center, located at 227 Ioof Avenue, approximately one mile south of the project site.

4.16.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact REC-1:	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. **(Less than Significant Impact)**

The proposed project would employee 50 full time employees and up to 74 contractors that may occasionally be at the site to perform special maintenance related projects. While the project would result in an increase of jobs within the City, the increase would be minimal and would not lead to a substantial increase in employment. Some data center 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)**

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)**

The proposed project would not include recreational facilities. Some data center employees may use nearby parks and recreational facilities; however, this would not require the construction or expansion of recreational facilities. **(Less than Significant**

4.17 TRANSPORTATION/TRAFFIC

4.17.1 Environmental Setting

4.17.1.1 *Regulatory Framework*

State

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

SB 743 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 the replacement of automobile delay—described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion—with VMT as the recommended metric for determining the significance of transportation impacts. The Governor's Office of Planning and Research (OPR) approved the CEQA Guidelines implementing SB 743 on December 28, 2018. Local jurisdictions are required to implement a VMT policy by July 1, 2020.

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.

Gilroy 2040 General Plan

The following General Plan policies related to transportation are applicable to the proposed project:

Policy	Description
M 1.7	**Reduce Vehicle Miles Traveled** Reduce vehicle miles traveled (VMT) and greenhouse gas emissions by developing a transportation network that makes it convenient to use transit, ride a bicycle, walk, or use other non-automobile modes of transportation.
M 1.12	**Transportation Demand Management** Encourage existing and proposed development to incorporate TDM measures such as car-sharing, transit passes, and unbundling of parking (requiring separate purchase or lease of a parking space) where such measures will result in a reduction in vehicle miles travelled, reduction of required amount of parking or an increase in the use of alternate transportation modes.
M 3.2	**New Development** Require new development to include a system of sidewalks, trails, and bikeways that link all land uses, provide accessibility to parks and schools, and connect to all existing or planned external street and trail facilities in accordance with the Mobility Diagrams.
M 3.9	**Bicycle Parking** Require adequate short- and long-term bicycle parking for all land uses except for single-family residential uses.
M 4.2	**Transit and Development** Require new development to fully accommodate, enhance, and facilitate public transit, including pedestrian and bicycle access to transit.
M 5.3	**Promote Non-Auto Modes of Transportation** Consider offering incentives as part of a multimodal system approach, for projects that incorporate travel demand management techniques and promote transit ridership, biking, and walking in order to reduce air pollution, energy consumption, and greenhouse gas emissions.
M 5.12	**Minimum Parking Standards** Consider eliminating or reducing minimum parking standards for private vehicles in transit-oriented developments, mixed-use developments and developments in high density areas over time, while increasing parking for shared vehicles, alternative energy vehicles, bicycles, and other alternative modes of transportation

4.17.1.2 *Regional and Local Roadway Access*

The existing roadway network providing regional and local access to the site is described in below.

- **Highway 101** is a six-lane freeway north of the Monterey Road interchange and transitions to a four-lane freeway south of that point. US 101 extends northward through San Jose and southward into Salinas. This freeway serves as the primary roadway connection between Gilroy and Morgan Hill and other Santa Clara County communities to the north and between Gilroy and Salinas to the south. Regional access to the project site is provided via the US 101 interchanges at Leavesley Road and Tenth Street/SR 152.

- **SR 152 (Pacheco Pass Highway)** is a two- to four-lane east-west highway that extends to the east starting at the US 101 interchange at Tenth Street, where it is known as Pacheco Pass Highway, over the Pacheco Pass to Interstate 5 and through Los Banos. West of Gilroy, SR 152 is known has Hecker Pass Highway and extends westward from the Highway 101 interchange at Leavesley Road via Monterey Road and First Street over the Santa Cruz Mountains to Watsonville and Highway 1.

- **Tenth Street** is a two- to six-lane arterial roadway that begins at Uvas Park Drive and extends eastward to US 101, where it changes designation to Pacheco Pass Highway (SR 152). Tenth Street is one of six freeway crossings within Gilroy and it is proposed to be extended from its current terminus point at Uvas Parkway westward over Llagas Creek to Connect to Santa Teresa Boulevard at the current Miller Avenue/ Santa Teresa Boulevard intersection.

- **Leavesley Road** is a six-lane, east-west arterial roadway that extends from Monterey Road to the west (after which it becomes Wellburn Avenue), and the eastern foothills to the east (where it turns south and becomes Ferguson Road). Leavesley Road is one of six freeway crossings within Gilroy

- **Camino Arroyo** is a four-lane, north-south arterial roadway that extends from Arroyo Circle, just north of Sixth Street/Gilman Road, to Venture Way, south of Pacheco Pass Highway. Arroyo Circle extends northward to Leavesley Road along the east side of Highway 101, and in conjunction with Camino Arroyo, provides a north/south connection between Leavesley Road and Pacheco Pass Highway. The project site is located between the two termini of Camino Arroyo, which abut the northern and southern borders of the site.

4.17.1.3 *Existing Transit Service*

Transit service in the area includes local bus service provided by the Santa Clara Valley Transportation Authority (VTA).

Bus Service

VTA Local Bus Routes 84 and 85 provide bus service in the project vicinity.

VTA Local Bus Route 84 provides weekday and weekend service between the Gilroy Transit Center and Saint Louise Regional Hospital via Tenth Street, Camino Arroyo, and San Ysidro Avenue with approximately 60-minute headways during commute hours.

VTA Local Bus Route 85 provides weekday and weekend service between the Gilroy Transit Center and Saint Louise Regional Hospital via Sixth Street, Wren Avenue, Kern Avenue, Mantelli Drive, Leavesley Road, and San Ysidro Avenue with approximately 60-minute headways during commute hours.

Caltrain

The Gilroy Caltrain Station is located at 7150 Monterey Street, roughly one mile west of the site. Caltrain provides train service from Gilroy to San Francisco, with limited-stop service at other stations along the peninsula corridor. Caltrain service to Gilroy is only provided on weekdays; weekend service south of San Jose is not available. Currently, the Gilroy Caltrain station is served by two northbound trains in the morning and two southbound trains in the evening.

4.17.1.4 *Existing Pedestrian and Bicycle Facilities*

The site is currently undeveloped farmland. Pedestrian access to the site is provided by sidewalks on Camino Arroyo where it terminates at the site's northern border.

Bicycle facilities comprise paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are lanes on roadways designated for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only. There are Class II bicycle facilities along Leavesley Road, Camino Arroyo, and Arroyo Circle.

4.17.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	To be Determined
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) For a land use project, 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 land uses (e.g., farm equipment)?	☐	☐	☒	☐
4) Result in inadequate emergency access?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact TRN-1:	The project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian facilities. **(Less than Significant Impact)**

The City of Gilroy does not currently have an adopted Vehicle Miles Traveled (VMT) policy. The VTA Congestion Management Plan (CMP) guidelines state that a project's traffic impacts should be analyzed during the weekday AM and PM peak periods if it will add more than 100 peak hour trips to the roadway network. Based upon trip generation estimates below, the project would not exceed the 100 peak hour trips threshold. As a result, no formal traffic impact analysis to evaluate changes in intersection level of service is required or proposed.

Construction Vehicle Trips

All construction-related trips would be temporary in nature and would cease at the completion of construction activities. Trip generation would vary by construction phase. The average construction workforce is estimated to be 50, with a peak estimated to be 100 for each phase. An accepted methodology to estimate construction worker trips is to use daily trip rates for employees at a general light industrial facility and apply those rates to the anticipated number of construction workers. The Institute of Transportation Engineers (ITE) Trip Generation Manual, Tenth Edition's trip generation rate for general light industrial land uses (land use code 110) is 3.05 daily one-way trips per employee. Applying that rate to the maximum 100 daily construction workers yields 305 daily one-way trips, or 152.5 daily round trips. Additional trips associated with hauling and delivery would occur during construction. Hauling and delivery activities are conservatively estimated to result in an average of roughly 50 one-way trips, or 25 round trips, per day.

Operational Vehicle Trips

The GBGF would not generate regular vehicle trips other than occasional trips associated with maintenance activity and, therefore, would not result in impacts related to vehicle trips.

The GDC would require a total of approximately 50 full time employees and up to 74 contractors that may be employed on occasion to complete special maintenance related projects. As described in *Section 4.3 Air Quality*, GDC employees and contractors are estimated to generate roughly 150 daily roundtrips, or 300 daily one-way trips. Based on ITE Trip Generation Manual data regarding the percentage of daily trips occurring in the AM and PM peak hours at data center land uses (land use code 160), roughly 11 percent of daily trips occur in the AM peak hour and 9 percent of daily trips occur in the peak hour. Based on a rate of 300 daily one-way trips, the project would generate 33 AM peak hour trips and 27 PM peak hour trips.

Bicycle and Pedestrian Facilities

Pedestrian access to the site is provided by sidewalks on Camino Arroyo where it terminates at the site's northern border. The project would install a new sidewalk on Camino Arroyo at the project's southern border.

Proposed modifications to site access along the project frontage would not conflict with bicyclists use of the existing Class II bike lanes on Camino Arroyo.

Transit Facilities

Due to the low number of employees expected at the proposed data center, the project would not adversely impact levels of service at nearby transit, pedestrian, or bicycle facilities. **(Less than Significant Impact)**

Impact TRN-2:	The project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(To be Determined)**

A VMT Analysis is currently being prepared by a transportation consultant and will be provided to the CEC in a subsequent submittal. **(To be Determined)**

Impact TRN-3:	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). **(Less than Significant Impact)**

The project site is located between the two termini of Camino Arroyo, which abut the northern and southern borders of the site. Access to the site would be provided by two 35-foot wide driveways at the terminus of Camino Arroyo at the northern border of the site and one 35-foot wide driveway at the terminus of Camino Arroyo at the southern border of the site. Internal roadways would connect between the two termini of Camino Arroyo, providing access to the interior portions of the site.

Although the project would alter the existing configurations of the two termini of Camino Arroyo by introducing driveways, the project would not alter the shape of the roads, nor would it create any sharp curves or dangerous intersections. Project construction and operation will occur entirely onsite. Therefore, the project will not increase hazards due to geometric design features of roadways or incompatible use. **(Less than Significant Impact)**

Impact TRN-4:	The project would not result in inadequate emergency access. **(Less than Significant Impact)**

Emergency access would be provided to the site via proposed driveways at both termini of Camino Arroyo. The driveways would provide access to an internal roadway looping around the perimeters of the data center buildings for site circulation and emergency vehicle access. The City of Gilroy standards require two-way driveways providing access to industrial properties be a minimum width of 35 feet. All proposed driveways on the site would be 35-feet wide. The final site design would be subject to review by the City for consistency with requirements for fire truck access. **(Less than Significant Impact)**

4.18 TRIBAL CULTURAL RESOURCES

The discussion in this section is based in part upon a Cultural Resources Literature Search prepared for the project by *Holman & Associates, Inc.* in December 2020. A copy of the report will be docketed with the Commission under a Request for Confidentiality.

4.18.1 Environmental Setting

4.18.1.1 *Regulatory Framework*

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.

4.18.1.2 *Existing Conditions*

As discussed in Section 4.5 Cultural Resources, there is low potential for archaeological resources on the site. During preparation of the City's 2040 General Plan, the City did not receive any requests for consultation from tribes that are traditionally or culturally affiliated with the project area pursuant to AB 52. The City offered consultation under SB18 and no responses were received.[69]

On November 13, 2020, a Sacred Lands Search request for the project site was sent to the Native American Heritage Commission (NAHC). On November 23, 2020, the Sacred Lands Search results were received and showed a positive result for potential sacred lands.[70] The NAHC search area is based on township and range location and encompasses many square miles around the site. Because the specific sacred lands identified in the search are confidential, it is not known at this time whether the sacred lands are located on or in the vicinity of the site.

[69] City of Gilroy. *Gilroy 2040 General Plan Environmental Impact Report.* SCH# 2015082014. June 22, 2020. Page ES-2.
[70] Sarah Fonseca, NAHC. *Sacred Lands Search Result Memo*. November 23, 2020.

4.18.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	To be Determined by Lead Agency
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:				
a) 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) 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.	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact TCR-1: 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).

While there is a potential for unknown Native American subsurface artifacts or human remains to be present in the project area, the project's impact to unknown resources would be less than significant with the implementation measures identified in Section 4.5 Cultural Resources (PD CUL-1 and PD CUL-2).

In addition to impacts associated with the potential presence of artifacts and remains, impacts to TCRs could occur due to the presence of sacred lands on or adjacent to the site. As described previously, the NAHC completed a Sacred Lands Search which determined that sacred lands are present within the same township and range as the project site. The NAHC provided a list of tribes to contact for more information. The list will be provided to the CEC by the applicant. Given the positive result of the Sacred Lands Search, it is more appropriate for the Lead Agency to conduct outreach to the identified tribes as part of the CEQA process, as opposed to a private applicant

conducting outreach as part of the SPPE Application process. As the Lead Agency for the project, the CEC will conduct outreach to the tribes identified by the NAHC to determine whether sacred lands are present on or adjacent to the project site. If sacred lands are present in the project vicinity, the CEC will make a determination as to whether the project would result in significant impacts to TCRs associated with the sacred lands.

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.

As discussed under Impact TCR-1, any subsurface artifacts or human remains found on-site would be addressed consistent with the measures identified under PD CUL-1 and PD CUL-2. The determination of whether the project would cause a substantial adverse change in the significance of a TCR will be made by the CEC after it has completed outreach to the tribes identified by the NAHC.

4.19 UTILITIES AND SERVICE SYSTEMS

4.19.1 Environmental Setting

4.19.1.1 *Regulatory Framework*

State

State Water Code

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 Gilroy adopted its most recent UWMP in May 2016.

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.

Regional and Local

National Pollution Discharge Elimination System

Wastewater generated in Gilroy is treated at the South County Regional Wastewater Authority (SCRWA) treatment plant (treatment plant) located at 1500 Southside Drive in Gilroy. The treatment plant provides secondary and tertiary treatment of wastewater to the cities of Gilroy and Morgan Hill. Discharges from the treatment plant are subject to discharge prohibitions, discharge limitations, and

receiving water limitations. The RWQCB regulates discharges into the San Francisco Bay through NPDES regulations. The NPDES permit for the treatment plant documents current practices and levels of service for attainment of discharge water quality that is protective of beneficial uses. The RWQCB includes regulatory requirements that each wastewater collection system agency shall, at a minimum, develop goals for the Sewer System Management Plan (SSMP) to provide adequate capacity to convey peak flows. Other RWQCB regulatory requirements include the General Waste Discharge Requirements (GWDR), which regulates the discharge from wastewater treatment plants.

Santa Clara County Integrated Waste Management Plan

Santa Clara County's Integrated Waste Management Plan (IWMP) was approved by the California Integrated Waste Management Board in 1996 and reviewed in 2004, 2007, 2011, and 2016. Each jurisdiction in the County has a landfill diversion requirement of 50 percent per year. According to the IWMP, the County has adequate capacity beyond 2030.[71]

2015 Urban Water Management Plan

The Gilroy 2015 Urban Water Management Plan is designed to implement and maintain the reliability of urban water supplies in the City of Gilroy. According to the 2015 Urban Water Management Plan, the total water demand for the Gilroy service area is expected to increase from 3,837 in 2020 to 5,822 in 2040 based on ABAG populations projections for the City of Gilroy.[72] Supply projections show that the City would have enough water supply to meet projected demand through 2040 in normal, single-dry, and multiple-dry year scenarios.[73]

Gilroy 2040 General Plan

The following General Plan policies related to utilities and service systems are applicable to the proposed project:

Policy	Description
PFS 4.2	**Wastewater Treatment and Disposal Capacities.** Provide for and maintain adequate wastewater treatment and disposal capacities to meet the needs of existing users and support the buildout of the Gilroy 2040 General Plan.
PFS 4.3	**Timing and Location of Development.** Require that adequate wastewater treatment capacity is funded and in place prior to approval of new development.
LU 8.6	**Utility Undergrounding.** Proceed with the undergrounding of existing overhead utility lines throughout the city, as funding allows, and require undergrounding of utilities in all new developments.

[71] Santa Clara County. Five-Year CIWMP/RAIWMP Review Report. June 2016.
[72] City of Gilroy. 2015 Urban Water Management Plan. May 2016. Page 4-3.
[73] Ibid.

Policy	Description
PFS 6.4	**Recycling.** Reduce the volume of material sent to solid waste sites by maintaining recycling programs and encouraging the participation of all residents and businesses.
PFS 6.5	**Source reduction.** Reduce the volume of disposed waste by encouraging efforts to decrease consumption; reduce material weight and volume; reuse products and materials; and increase the durability of products and materials.

City Code Chapter 12 Garbage, Refuse and Weeds

Chapter 12, Article V of the Gilroy City Code requires that all projects requiring a building or demolition permit for removal of 5,000 square feet or more are required to recycle or divert from disposal at a landfill at least 50 percent of the construction debris resulting from the construction or demolition.

4.19.1.2 *Existing Conditions*

Water Services

Water service is currently provided to the project site by the City of Gilroy Department of Public Works. All of the City's water supply comes from local ground water sources.[74] Although not required to meet current water demand projections, SCRWA supplies recycled water to a small portion of the City of Gilroy along Hecker Pass Road. The nearest recycled water line is approximately one mile south of the project site located at the intersection of Camino Arroyo and Holloway Road.[75] ADS is currently working with the City of Gilroy relating to the use its of recycle water at the site for cooling and landscaping purposes. The City would likely extend the water main trunk line north along Camino Arroyo to the intersection of Arroyo Circle and Camino Arroyo in the future and once extended recycled water would be used at the site. Final routing will be determined by the City and Santa Clara Valley Water Authority in accordance with the Recycled Water Master Plan. However, please see Figure 3.3-1 for an exhibit of a potential recycled water main trunkline extension route.

An existing eight-inch potable water line is located to the south of the project site.

Wastewater

SCRWA treatment plant has a current permitted capacity of 8.5 million gallons per day (mgd) for average dry weather flow.[76] The total capacity of the treatment plant is shared between the cities of Gilroy and Morgan Hill, with 58.1 percent (or 4.93 mgd) of the inflow capacity allocated to Gilroy and the remaining 41.9 percent (or 3.56 mgd) allocated to Morgan Hill. The SCRWA treatment plant

[74] City of Gilroy. 2015 Urban Water Management Plan. May 2016.
[75] Santa Clara Valley Water District/South County Regional Wastewater Authority. South County Recycled Water Master Plan. October 2004. Accessed November 19, 2020. https://www.cityofgilroy.org/DocumentCenter/View/672/South-County-Recycled-Water-Master-Plan-PDF
[76] City of Gilroy. Gilroy 2040 General Plan Environmental Impact Report. SCH# 2015082014. June 22, 2020.

currently processes 6.2 mgd and has available capacity to treat 2.3 mgd.[77] The City of Gilroy is currently generating approximately 3.5 mgd of sewage that is treated at the plant.[78] Given the City's allocated capacity at the treatment plant of 4.93 mgd, and the City's current generation (3.5 mgd), there is 1.43 mgd of available treatment capacity at the plant for additional sewage generated in the City.

A planned expansion of the treatment plant is expected to be operational between 2024 and 2026 and would increase the total plant treatment capacity from 8.5 to 11.0 mgd.[79] With the planned treatment plant expansion, the City's total treatment allocation at the plant would increase from 4.93 to 6.4 mgd.

Stormwater Drainage

The project site is currently made up of primarily pervious surfaces. The general topography of the project vicinity slopes southward and drains toward Miller Slough, which is ultimately conveyed to Llagas Creek.

Solid Waste

Solid waste generated in the City of Gilroy is taken to the San Martin Transfer Station where recyclable materials are separated from the solid waste stream and the solid waste is disposed of at the John Smith Road Landfill near Hollister. The John Smith Landfill has a permitted capacity of 9.35 million cubic yards and a remaining capacity of 3.5 million cubic tons remaining.[80]

Electricity and Natural Gas

Pacific Gas and Electric (PG&E) is the primary provider of electricity and natural gas to the City. PG&E operates a major network of electricity and natural gas transmission lines within its service area, including the City of Gilroy. There are underground electricity lines and overhead lines near the project site.

[77] Ibid
[78] City of Morgan Hill. Monterey Gateway Project Initial Study/Mitigated Negative Declaration. February 2020. https://www.morgan-hill.ca.gov/DocumentCenter/View/36250/Monterey-Gateway-ISMND_Public-Review
[79] South County Regional Water Authority. Wastewater Treatment Plant Facility Expansion Project Initial Study/Mitigated Negative Declaration. August 26, 2020.
[80] CALRecycle. "SWIS Facility Detail, John Smith Road Landfill (35-AA-0001)." Accessed November 19, 2020. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2151?siteID=2583

4.19.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐
City of Gilroy Adopted CEQA Thresholds				
6) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the GBGF and the GDC, 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 "GBGF" or the "GDC".

Impact UTIL-1:	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. **(Less than Significant Impact)**

Water Services

The City of Gilroy General Guidelines require industrial plots to have minimum water pipe diameters of 12 inches, however, the pipe south of the site that the project would connect to is only eight inches in diameter. The City of Gilroy Water System Master Plan designates a 16-inch water main routed around the site with the nearest pipe approximately 700-feet away at Gilman Road. The three 16-inch pipes planned around the site are estimated to be completed between 2020-2040. The applicant is working with the City to negotiate the acceleration of these improvements. The project would not require any further new or expanded facilities apart from the water pipe upgrade already planned by the City. **(Less than Significant Impact)**

Wastewater

The City of Gilroy General Guidelines require sanitary sewer average flowrates of 2,500 gallons per acre per day when calculating pipe sizes for industrial sites. This would allow for a total of 140,000 gallons per day for the 56-acre project site. The project would discharge approximately 6,800 gallons on an average day and a maximum of 52,100 gallons per day on a peak day. Thus, the project would be in compliance with the City's General Guidelines. The existing 14-inch sanitary sewer pipe south of the project site would be adequate to serve the project. The project's wastewater discharge on a peak day would make up approximately 3.6 percent[81] of the SCRWA treatment plant's available capacity for the City of Gilroy. This would be an incremental increase in wastewater demand, which the SCRWA treatment plant would be able to accommodate. **(Less than Significant Impact)**

Stormwater Drainage

The project would introduce a series of low points onsite to promote runoff conveyance on the relatively flat site. Runoff would be conveyed to a biofiltration system that would treat stormwater on-site. Stormwater not absorbed by the biofiltration system would be conveyed to the City's stormwater system. The project would connect to the existing 72-inch stormwater pipe south of the site, which would be sufficient in size to accommodate the project. The City does not have stormwater treatment facilities. Stormwater is untreated and drains to the Pajaro River, and eventually outfalls to Monterey Bay. Through implementation of the biofiltration system and consistency with the City's Post-Construction Requirements, the project would treat and reduce stormwater on-site and would not necessitate substantial new stormwater facilities. **(Less than Significant Impact)**

[81] 52,100 gpd project demand / 1,430,000 x 100 = 3.6

Electricity, Natural Gas, and Telecommunications

The GDC would include construction of a new 98 mega-watt (MW) electrical substation to provide electrical power to the proposed data center. The proposed substation would connect to the existing electrical lines near the project site. The impacts associated with construction of the substation have been incorporated into the construction assumptions for the project that have been analyzed throughout this application.

The GDC would incrementally increase natural gas and telecommunication use, but would not require the construction of any additional off-site facilities. **(Less than Significant Impact)**

Impact UTIL-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)**

The GBGF would not require water supply.

Because the potential recycled water line shown in Figure 3.3-1 has not yet been extended to the site, the project's impacts to water supplies are discussed in the context of the existing potable water supply. The GDC would use approximately 5.4 acre-feet per year (AFY) for cooling, approximately 15.8 AFY for landscaping, and approximately 0.5 AFY for potable and sanitary uses. As discussed previously, according to the City's 2015 Urban Water Management Plan, the City would have enough water supply to meet projected demand (which is based on the buildout of the City's General Plan) through 2040 in normal, single-dry, and multiple-dry year scenarios. For these reasons, there are sufficient water supplies to serve the project and new or expanded entitlements are not required. **(Less than Significant Impact)**

Impact UTIL-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)**

As described in Impact UTIL-1, the project's wastewater discharge on a peak day would make up approximately 3.6 percent of the SCRWA treatment plant's available capacity for the City of Gilroy. This would be an incremental increase in wastewater demand, which the SCRWA treatment plant would be able to accommodate. **(Less than Significant Impact)**

Impact UTIL-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)**

As noted in Section 4.19.1.2 Existing Conditions, the John Smith Landfill has a remaining capacity of 3.5 million cubic tons. The project would not involve substantial demolition and the project would not generate substantial solid waste during operation. Solid waste generated by the project would be an incremental increase and would not be in excess of the John Smith Landfill capacity. **(Less than Significant Impact)**

Impact UTIL-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)**

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)**

Impact UTIL-6:	The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. **(Less than Significant Impact)**

The City has an established CEQA Significance Impact Threshold for this checklist question. The significance threshold is if a project would exceed requirements or be inconsistent with the City's Sewer Master Plan. The City's Sewer Master Plan bases future demand and system requirements on the General Plan Land Use Map and related population and service area projections. The project is consistent with the General Industrial land use designation for the site and growth projections contained in the General Plan and would not require expansion of the existing sewer system to serve the project. The Sewer Master Plan identified capital improvements needed to serve the buildout of the 2040 General Plan. Development projects included within the growth assumptions of the General Plan (such as the proposed project) would be required to make a fair share contribution toward capital improvements projects with payment of a sewer impact fee. The proposed project would be required to pay a sewer impact fee.

In addition, the sewage generated by the project would be treated at the treatment plant in accordance with the requirements of the treatment plant's existing NPDES permit. The sewage generated by the proposed industrial uses would not exceed the RWQCB wastewater treatment requirements or require new treatment permits. **(Less than Significant Impact)**

4.20 WILDFIRE

4.20.1 Environmental Setting

4.20.1.1 *Regulatory Framework*

State

Fire Hazard Severity Zones

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 Fire Code Chapter 47

Chapter 47 of the California Fire Code sets requirements for wildland-urban interface fire areas that increase the ability of buildings to resist the intrusion of flame or burning embers being projected by a vegetation fire, in addition to systematically reducing conflagration losses through the use of performance and prescriptive requirements.

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 Section4428);
- 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).

California Code of Regulations Title 14

The California Board of Forestry and Fire Protection has adopted regulations, known as SRA Fire Safe Regulations, which apply basic wildland fire protection standards for building, construction, and development occurring in a SRA. The future design and construction of structures, subdivisions and developments in SRAs are required to provide for the basic emergency access and perimeter wildfire protection measures discussed in Title 14.

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.

4.20.1.2 *Existing Conditions*

The project site is located in an urbanized area of Gilroy. The project site is not located in or near a state responsibility area or near lands classified as very high fire hazard severity zones.82

4.20.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

82 California Department of Forestry & Fire Protection. *Santa Clara County Very High Fire Hazard Severity Zones.* October 8, 2008.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Would the project:				
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?	☐	☐	☐	☒

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.[83] **(No Impact)**

[83] California Department of Forestry & Fire Protection. *Santa Clara County Very High Fire Hazard Severity Zones.* October 8, 2008.

4.21 ENVIRONMENTAL JUSTICE

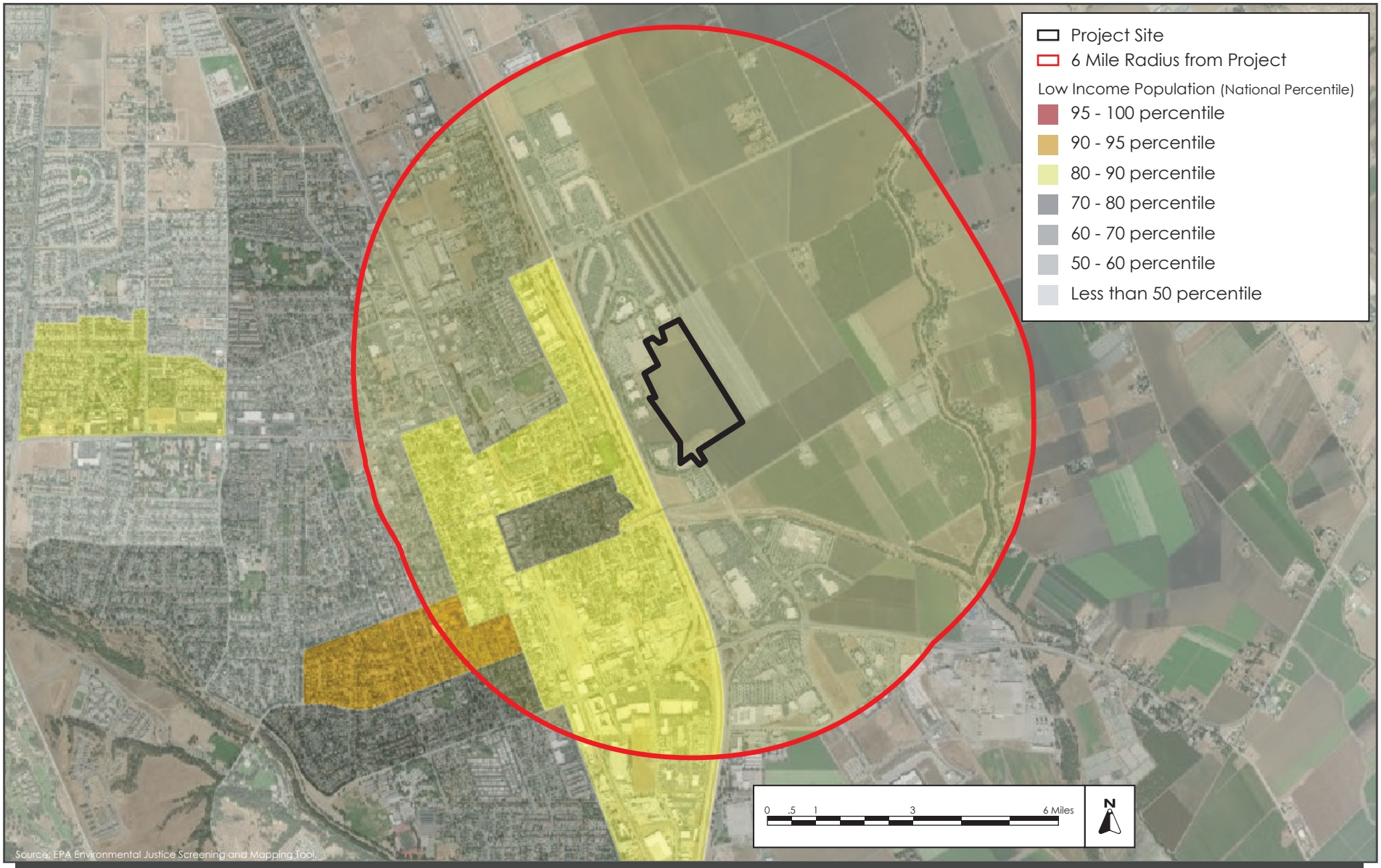
4.21.1 Environmental Setting

Based on California Department of Education data shown in Table 4.21-1 and depicted in Figure 4.21-1, the percentage of those living in the school districts of Gilroy Unified School District (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, and thus are considered 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 4.21-1: Low Income Data within the Project Area

School Districts in Six Mile Radius	Enrollment Used for Meals	Free or Reduced Price Meals	
Solorsano Middle School	12	2	16.7%
Dr. TJ Owens Gilroy Early College Academy	916	509	55.6%
Christopher High School	304	119	39.1%
Gilroy Prep School	1,607	639	39.8%
Gilroy High School	537	260	48.4%
Mt. Madonna High School	1,727	963	55.8%
Luigi Aprea Elementary School	169	119	70.4%
El Roble Elementary School	584	136	23.3%
Eliot Elementary School	601	342	56.9%
Glen View Elementary School	487	443	91%
Las Animas Elementary School	493	397	80.5%
Rucker Elementary School	735	310	42.2%
South Valley Middle School	564	309	54.8%
Rod Kelley Elementary School	889	582	65.5%
Brownell Middle School	763	441	57.8%
Antonio Del Buono Elementary School	837	369	44.1%
Lakeside Elementary School	447	314	70.2%
Reference Geography			
Santa Clara County	263,462	92,033	34.9%

Source: California Department of Education, Data & Statistics, Free or Reduced Price Meals Data 2019-2020, https://www.cde.ca.gov/ds/sd/sd/filessp.asp.



LOW INCOME POPULATION DISTRIBUTION BY CENSUS BLOCKS WITHIN 6 MILES OF PROJECT | FIGURE 4.21-1

Figure 4.21-2 shows 2010 census blocks in a six-mile radius of the project with a minority population greater than or equal to 50 percent (US Census 2010). The population in these census blocks represents an environmental justice 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).

4.21.2 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.

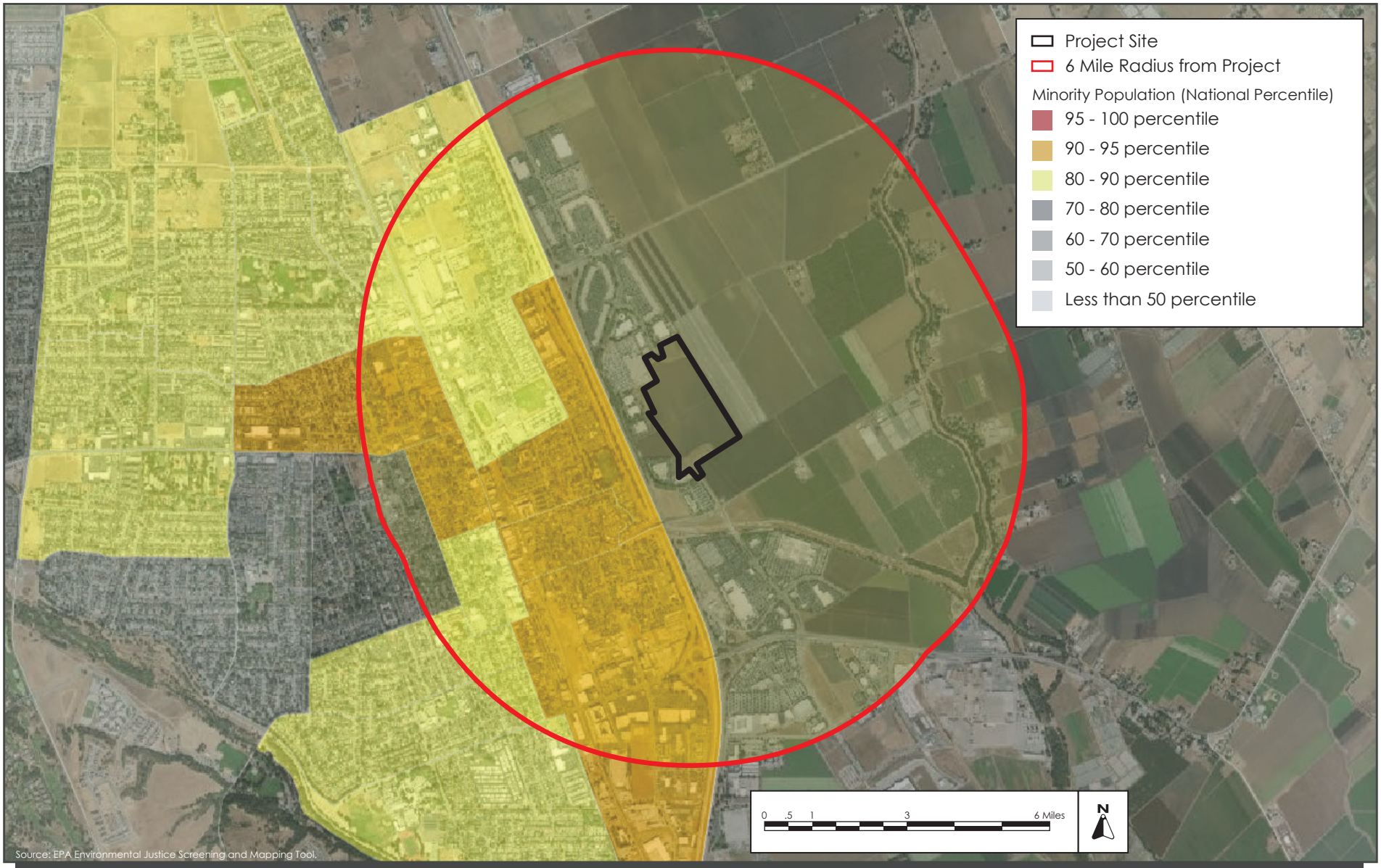
Aesthetics

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 4.21-1 and Figure 4.21-2, the project site is located within an area with a low-income population (80 to 90th percentile) and a high minority population (80 to 95th percentile). However, as discussed in Section 4.1 Aesthetics, the proposed project is located within a partially urbanized area of Gilroy which already experiences light and/or glare from the surrounding development. The proposed buildings would be subject to the City of Gilroy's design review process to ensure that the project would not adversely affect the visual quality of the project area, and would conform to existing architectural and landscaping standards. 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 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 Figures 4.21-1 and 4.21-2. 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. The potential construction and operation risks are associated with exposure to diesel particulate matter (DPM), total organic gases (TOG) in diesel exhaust, and evaporative and exhaust TOGs from gasoline vehicles. The toxic air contaminants (TACs) from TOG include 1,3-Butadiene, Acetaldehyde, Benzene, Ethylbenzene, Formaldehyde, n-Hexane, Methanol, Methyl Ethyl Ketone, Napthalene, Propylene, Styrene, Toluene, and Xylene. 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



MINORITY POPULATION DISTRIBUTION BY CENSUS BLOCKS WITHIN 6 MILES OF PROJECT | FIGURE 4.21-2

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 Figures 4.21-1 and 4.21-2.

The air quality analysis considers the most sensitive and most protective 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 both the GDC and GBGF would be less than significant with mitigation incorporated. Both construction and operational emissions from the project with mitigation incorporated 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 Figures 4.21-1 and 4.21-2. **(Less than Significant Impact)**

Cultural and Tribal Cultural Resources

The analysis did/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 GBGF would contain diesel fuel, a hazardous material, to run the emergency generators. As discussed in Section 2.2.11 Hazardous Materials Management, the total quantity would be divided up and stored in many separate double-walled containers with proper spill controls. 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. **(Less than Significant Impact)**

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 4.10 Hydrology and Water Quality, 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 or groundwater degradation, as it would be consistent with the City's Water Master Plan. Additionally, 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. The project would implement a biofiltration system that would improve upon the site's existing storm water discharge controls. The project is, therefore, not expected to negatively impact water quality and would not result in a

disproportionate impact to the local EJ population. The project's hydrology and water quality impacts would be reduced to less than significant for all the area's population, including the EJ population. **(Less than Significant Impact)**

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.

The project would not divide an existing community, as the site is on land designated and zoned for industrial uses and is generally surrounded by industrial uses and commercial uses. The project would be consistent with the City of Gilroy General Plan land use designation and would be consistent with the zoning district. No conflicts with plans, policies, or related land use regulations would occur. The project would not pose significant individual impacts relating to land use and planning; therefore, no disproportionate impacts on the EJ population would occur either. **(No 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 4.21-1 and 4.21-2, 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 commercial and industrial land uses, but they would be temporary and intermittent. As discussed in Section 4.13 Noise and Vibration, implementation of measures incorporated into the project design 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 noise from operating the facility (GDC and GBGF combined) would not exceed the City of Gilroy's noise limits at the nearest land uses. Therefore, project noise would comply with the city's noise limits, and thus, its noise impacts would be reduced to less than significant for all the area's population, including the EJ population. **(Less than Significant Impact)**

Population and Housing

The potential for population and housing impacts to 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 thus would not likely seek temporary lodging closer to the project site. 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. If some operations workers were to relocate closer to the project site, there would be sufficient housing in the project area.

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 4.14 Population and Housing, 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 4.17 Transportation and Traffic, all transportation and traffic impacts, including impacts to alternative transportation, would be less than significant, and therefore, would cause less than significant impacts to EJ populations.[84] Likewise, transportation and traffic impacts 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. As determined in Section 4.19 Utilities and Service Systems section, adequate water supply is available to serve the project. The project would, therefore, not result in a disproportionate impact to the local EJ population.

There is also significant remaining capacity at the local landfill and wastewater treatment facilities that would be utilized by the project. No changes or expansion to the landfill or wastewater treatment facility would be needed to accommodate this project. The project would also be required to comply with state and local regulations that apply to construction and operation waste. These regulations would require that wastes are managed to meet waste diversion goals and protect public health and safety. The project would, therefore, not have a disproportionate impact on the 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)**

[84] As noted in Section 4.17 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.

4.22 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
2) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact MFS-1:	The project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

The project would not result in significant impacts to the environment and, therefore, would not have the potential to substantially degrade the quality of the environment.

The project is located in an area largely devoid of sensitive biological resources. Measures included in the project would ensure impacts to nesting birds are reduced to less than significant levels. The project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal.

There are no known historic, cultural, or tribal resources on or adjacent to the site. The project includes measures to reduce potential impacts to unknown buried resources on the site, should they

be encountered, to less than significant levels. The project, therefore, would not eliminate important examples of the major periods of California history or prehistory.

Impact MFS-2:	The project does not have impacts that are individually limited, but cumulatively considerable. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

A number of projects have been recently approved, reasonably foreseeable, or are under development in the City of Gilroy in the vicinity of the project site. These include the development or redevelopment of commercial, industrial, and office uses. While these individual projects may result in significant impacts in particular issue areas, it is assumed that the projects will comply with existing regulations and statutes and will incorporate measures to reduce potential impacts to a less than significant level, if necessary. For example, all projects are required to incorporate best management practices and comply with local and regional regulations to reduce impacts to water quality to the maximum extent feasible. With the proposed project's adherence to the Land Use, Air Quality, Energy, and Water Policies described in the City's General Plan, project impacts would not contribute to cumulatively considerable impacts. Given the project's location and proposed operation, areas of particular concern for cumulative impacts are energy, air quality, and GHG emission. These impact areas are discussed in further detail below.

Energy

Energy impacts are cumulative in nature in that they are tied to local and regional energy supplies. Electricity for the proposed GDC would be provided by PG&E. No new generation peak capacity is necessary to meet the capacity requirements of new construction, or redeveloped facilities within the City to meet the near or projected future demand. Additionally, the GBGF would not have a significant adverse effect on local or regional diesel fuel supplies and will not create a significant adverse impact on California's energy resources.

Air Quality

Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. As described in *Section 4.3 Air Quality*, with the incorporation of measures into the project, the total increase in average daily emissions of criteria pollutants from operation of the project and cumulative air toxics health hazards are estimated to be below the significance thresholds used by BAAQMD and the CEC. Therefore, with implementation of measures included in the project, the project would not result in a cumulative air quality impact.

Greenhouse Gas Emissions

Similar to regulated air pollutants, GHG emissions and global climate change also represent cumulative impacts. The project's contribution to global climate change is discussed in *Section 4.7*

Greenhouse Gas Emissions in terms of the project's GHG emissions. With implementation of the efficiency measures included in the project in combination with the power mix utilized by PG&E, the project would not conflict with plans, policies or regulation adopted for the purpose of reducing the emissions of GHGs.

Impact MFS-3:	The project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, hazardous materials and noise. With the implementation measures included in the project and described in the specific sections of this report, the proposed project would not result in substantial adverse effects on human beings, individually or cumulatively.

SECTION 5.0 ALTERNATIVES

This section discusses alternatives to the proposed GDC and GBGF that ADS considered in its design process. These include a reduced development alternative, a reduced backup electric generation alternative, and backup electric generation technology alternatives. This discussion focuses on alternatives that could feasibly accomplish most of the basic objectives of the project.

5.1 OVERALL PROJECT OBJECTIVES

The primary goal of the GDC, as its name implies, to be a state-of-the-art data center that provides greater than 99.999 percent reliability (fine nines of reliability). The GDC has been designed to reliably meet the increased demand of digital economy, its customers and the continued growth. The GDC will house key cloud infrastructure that is integral to the economy.
The GDC'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;
- Develop a Data Center that can be constructed in phases which can be timed to match projected growth;
- To incorporate the most reliable and flexible form of backup electric generating technology 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 GBGF must provide a higher reliability than 99.999 percent in order for the GDC to achieve an overall reliability of equal to or greater than 99.999 percent reliability.
        - The selected backup electric generation technology mush 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.
    - **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.

5.2 REDUCED DEVELOPMENT ALTERNATIVE

The GDC site has been selected due to its close proximity to reliable electricity provided by PG&E. Rather than construct one large building on the 56 acre site, the GDC was designed in two phases, each including one building. Development of the full site is necessary to ensure the ever increasing demand for data center use can be met over time. A reduced development alternative would not meet the total projected demand over time and therefore would not meet the overall project objectives.

5.3 BACKUP ELECTRIC GENERATION TECHNOLOGY ALTERNATIVES

As part of the development of the GDC and the GBGF, ADS considered alternatives to the backup generators as proposed. As discussed more fully below, ADS considered a smaller capacity system as well as alternative generating technologies. For completeness purposes, a discussion of the No Backup Electrical Generation Alternative is also included.

5.3.1 Reduced Electric Generation Backup System

ADS considered a backup generating system with fewer emergency generators. However, any generating capacity less than the total demand of the GDC at maximum occupancy, with redundancy, would not allow ADS to provide the critical and reliable electricity needed during an emergency power outage. It is important to note that in addition to electricity that would be directly consumed by the servers themselves, the next largest electrical demand of the data center building would be related to cooling the server rooms. 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 utility electric power. Therefore, for ADS to provide the reliability, it is necessary to provide a backup generating system that could meet the maximum load during full occupancy on the hottest design day and include redundancy as described in Section 2.2.4.1. A reduced capacity system would not fulfill the basic objectives of the GDC.

5.3.2 Alternative Generating Technologies

ADS considered using potentially available alternative technologies: gas-fired turbines; flywheels; gas-fired reciprocating internal combustion engines, batteries; fuel cells; and alternative fuels. 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.

5.3.2.1 *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.[85]

ADS has concluded that flywheel technology would not be a viable option for the following reasons:

- Flywheel technology does not perform within the required reliability levels of ADS 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 12-24 hours or more) as a backup generation as the fly wheel motion can typically only sustain 10-30sec outages at a time.

[85] Energy Storage Association. Accessed November 2019. Available at: http://energystorage.org/energy-storage/technologies/flywheels

5.3.2.2 *Gas-Fired Turbines*

ADS considered using natural gas-fired turbines instead of diesel generators to supply backup power for the GDC. This technology option was rejected because it would not meet the project objectives. Natural gas turbines have the advantages of quick start, better emission of NOx and CO than diesel, and ability to connect to a natural gas infrastructure that is more reliable than the electrical grid by factor of 10. However, as the backup choice, it has the following main issues: 1) The gas infrastructure may have curtailment of the natural gas supplies in case of emergency due to natural disasters, impacting the data center operations. 2) onsite storage or delivery is impossible to support long duration of backup (such as 12-24 hours or longer time). 3) It is better suited for continuous operation instead of standby mode, which makes the maintenance challenging. 4) It needs minimum load (30%), so additional load banks are required on site, leading to the change of design in terms of reliability. 5) Typical turbine engines have larger system sizes (4MW-50MW), while the smaller ones such as micro-turbines of 2.5MW will use 2 times more physical footprint and cost two times more, and their commercial use is yet to be certified. 6) Local AHJs in California started to push back on natural gas due to clean air regulations on reducing fossil fuel. Therefore, natural gas turbines are not considered reliable, nor technically feasible enough to meet the industry standard or needs of the GDC. 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.

5.3.2.3 *Gas-Fired Reciprocating Engines*

ADS considered using natural gas-fired reciprocating engines instead of diesel generators to supply backup power for the GDC. 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 alternative suffers the same lack of reliability as natural gas turbine engines described above. Therefore, natural gas reciprocating engines are not considered technically feasible or reliable enough to meet the industry standard or needs of the GDC. As discussed above, storage of sufficient natural gas on site to maintain emergency electricity to the GDC during an outage would not be tenable given the volume of natural gas that would be required.

5.3.2.4 *Battery Storage*

ADS considered using batteries alone as a source of emergency backup power. The primary reason batteries alone were rejected by ADS was the limited duration of battery power. Batteries can provide power quickly, which is the reason ADS has incorporated them into the overall backup electrical system design. As described in Section 2.2.4.2, batteries 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 GDC. 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 ZnMnO2 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 GDC to meet or exceed 99.999 percent reliability. 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. This will trigger a scrutinizing review of California fire regulations due to the massive concentration of Lithium Ion batteries, the cost is prohibitive and the site is not optimized to accommodate this additional real estate.

5.3.2.5 *Fuel Cells – Backup Replacement*

ADS is very familiar with fuel cell technology because it is employed at data center locations where ADS provides services. It can provide both primary and off grid power. 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 from Bloom Energy that run on both primary and backup such as in Home Depot. The fuel cells of Bloom Energy 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, Bloom Energy 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 Bloom Energy fuel cells have additional ultra capacitors to cope with the 10-20 second load transfer time to match up with diesel gens.

As a choice of backup, it has the following issues: 1) It needs to run to provide base load to stay hot. Thus the design of the data center architecture has to change in power configuration. This is why large data centers (EQUINIX, Apple, Yahoo) prefer to use Bloom Energy as primary source and maintain their existing diesel gen fleet. 2) Its footprint is a lot more smaller than solar or wind, but about factor 3 bigger than the diesel gens of 2.5MW. Its weight is about 15 metric Tons/sq ft, making the stack on top of each ISO container challenging for implementation and maintenance. 3) It relies on the natural gas as feed stock, so the issues with natural gas infrastructure and onsite storage we discussed earlier will stay. Alternatively, Bloom Energy works with bio methane, but it is a technical challenge for our data centers to have steady supply, offsite or onsite.

While Liquified Natural Gas (LNG) can be used, the footprint required to store it onsite makes it impractical and commercially infeasible at the GDC Site. Diesel fuel storage for the minimum required back-up time usually presents very few space challenges as well avoids the potential environmental impacts associated with a failure of an LNG tank at the site.

A faster type of Fuel Cells is based different mechanism, called Proton Exchange Membrane (PEM). This type is mostly used for transport, can start cold quicker, like an internal combustion engine. Amazon is familiar with Hydrogen fuel cells from Plug Power, in many fulfillment centers. There are initiatives of apply Plug Power new product to 2.5 MW backup. The issues are 1) The footprint is about factor 2 bigger than diesel gens, since PEM fuel cell system comes with two ISO container, one has fuel cell units, and the other has DC/AC inverter and lithium-ion battery to ensure quick load transfer to 10 second. 2) Onsite storage of 12 hours of liquid hydrogen will take about 40x70 yard

space for a 18,000-gallon tank, that provides fuel for two of the 2.5MW systems. 3) Safety of liquid hydrogen (6000 PSI) to the data centers needs to be explored with AHJ. Amazon has experience of such a storage facility at its fulfillment centers but not in data centers. 4) CAPEX of the new fuel cell system is about 2.5X higher than diesel gens. This technology is forward looking, does not meet the production requirement of reliability, commercial availability, and technical feasibility in near-term. It is important to note that there are many small hydrogen fuel cell systems in the telecommunication industry, providing backup power, but so far those found have been in the 10 to 100 kW range, not scalable for a 98 MW facility.

5.3.2.6 *Fuel Cells – Primary Generation/Grid Backup*

ADS has evaluated generating primary electricity with fuel cells on-site and relying on the electricity grid for backup electricity. There are two primary reasons that this solution cannot achieve the Project Objectives. The first is that PG&E has communicated that it would not reserve the amount of electricity necessary to power the data center in perpetuity as a backup source. In the event of the gas line breakdown due to natural or man-made disaster, diesel gens can only provide limited backup time, we will need electricity grid as a backup. This renders the concept to be a supplemental solution from fuel cells to the grid. One primary driver of using fuel cells in EQUINIX is renewable energy. Recently there are cities such as Santa Clara deems natural gas-based fuel cells no longer a renewable energy source. Second, diesel generators will have to stay as a second source of backup as a second source. Before hydrogen grid becomes available, fuel cells as a primary generation will not satisfy the commercial feasibility and reliability requirement of more than one power source.

As currently designed, the GBGF will provide a N+1 protection scheme for the GDC. In other words, the primary electricity will be provided by the extremely reliable PG&E electric system and if that system fails, the diesel-fired emergency generators would provide the electricity that the GDC 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 PG&E electrical system is experiencing an outage. In that case, in order to provide the same reliability as the proposed design, emergency backup generators would be necessary (N+2) to provide electricity to the GDC during the design natural disaster case.

5.3.2.7 *Alternative Fuels*

ADS evaluated the use of biodiesel and renewable diesel (the new generation of biofuel such as Hydrotreated Vegetable Oil) as replacement for the CARB diesel proposed for use in the GBGF. There are internal tests and certification processes for diesel gens of Caterpillar and Cummins to run biofuel (HVO) in the diesel gens. However, biofuel (HVO) test results are still preliminary and adoption in data centers has not started yet. In addition, emissions of HVO are similar to diesel, though HC, CO are renewable in biofuel. 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.

5.3.2.8 *Tier 4 Emission Controls*

ADS evaluated the feasibility of installing Tier 4 instead of Tier 2 engines and determined Tier 4 engines are not feasible due to the overwhelming financial costs, increased space demand, and operational requirements in comparison to Tier 2 engines. Tier 4 engines implement the following emission-reduction strategies to meet the Tier 4 emission standards:

1. Selective Catalytic Reduction (SCR) – This works by combining the exhaust gases with ammonia (urea or DEF, diesel emissions fluid) and passing this mixture over a catalyst. Thus there would be a maintenance cost associated with supplies of ammonia/DEF, complicating ADS' redundancy requirement.
2. Diesel Oxidation Catalyst (DOC) – This aims to reduce the amount of CO and HC will be necessary to meet Tier 4 final regulations.
3. Exhaust Gas Recirculation (EGR) – This works by recirculating a small amount of cooled exhaust gas back into the combustion chamber. This reduces the combustion temperature and thus reduces the production of NOx. However, EGR increases particulate emissions, so a DPF is necessary Tier 4 final regulations.
4. Electronic Controls. This sophisticated control system is housed in the engine control unit (ECU). This manages dozens of operating and environmental conditions in order to optimize horsepower, torque, and responses to changes in load. It allows the engine to maintain combustion efficiency over a broad range of operating conditions and minimize emissions in the exhaust.

The resulting Tier 4 design leads to larger physical size by at least 25% to cover new parts, larger engine power to drive the fan drive for cooling the engine, higher operation cost since each engine manufacturer's Tier 4 engines differ in both physical size and operations, and would require more integration work of the control system to include after-treatment specific indicators (for monitoring regeneration, high exhaust system temperature, regenerations disabled, DEF, and a DEF level).

The pollution control equipment necessary to meet Tier 4 takes time to heat up before NOx emissions would effectively be reduced. This means that during the vast majority of our operation of the generators (testing and maintenance operation) NOx emissions will not be reduced significantly because the SCR and associated catalysts will not have achieved the necessary operating temperatures to be effective for short time use. In addition, the high costs associated with purchasing and maintaining a Tier 4 engine would make the project cost-ineffective at reducing actual NOx emissions. As such, replacing the proposed Tier 2 engines with Tier 4 engines is not a viable alternative.

5.3.3 No Backup Electric Generation Alternative

The "No Backup Electric Generation" Alternative would leave the GDC exposed to electricity outages caused by any emergency including and earthquake. Therefore, the No Backup Electric Generation Alternative is rejected as commercially infeasible and not consistent with the primary reliability objectives of the project.

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SECTION 7.0 AGENCY CONTACTS AND LIST OF CONSULTANTS

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1.0 Introduction and Purpose	DayZen, LLC; David J. Powers & Associates, Inc.
2.0 Project Information	DayZen, LLC; David J. Powers & Associates, Inc.
3.0 Project Description	DayZen, LLC; David J. Powers & Associates, Inc.
4.0 Environmental Setting, Checklist, and Impact Discussion	DayZen, LLC; David J. Powers & Associates, Inc.
4.1 Aesthetics	DayZen, LLC; David J. Powers & Associates, Inc.
4.2 Agriculture and Forestry Resources	DayZen, LLC
4.3 Air Quality	DayZen, LLC; Trinity Consultants, Inc.
4.4 Biological Resources	DayZen, LLC; Environmental Resources Management, Inc.; David J. Powers & Associates, Inc.
4.5 Cultural Resources	DayZen, LLC; Holman & Associates, Inc.; David J. Powers & Associates, Inc.
4.6 Energy	DayZen, LLC; Trinity Consultants, Inc.; David J. Powers & Associates, Inc.
4.7 Geology and Soils	DayZen, LLC; Arup North America, Ltd.; David J. Powers & Associates, Inc.
4.8 Greenhouse Gas Emissions	DayZen, LLC; Trinity Consultants, Inc.; David J. Powers & Associates, Inc.
4.9 Hazards and Hazardous Materials	DayZen, LLC; Environmental Resources Management, Inc.; David J. Powers & Associates, Inc.
4.10 Hydrology and Water Quality	DayZen, LLC; David J. Powers & Associates, Inc.
4.11 Land Use and Planning	DayZen, LLC; David J. Powers & Associates, Inc.
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4.13 Noise	DayZen, LLC; Trinity Consultants, Inc.
4.14 Population and Housing	DayZen, LLC; David J. Powers & Associates, Inc.
4.15 Public Services	DayZen, LLC; David J. Powers & Associates, Inc.
4.16 Recreation	DayZen, LLC; David J. Powers & Associates, Inc.
4.17 Transportation	DayZen, LLC; David J. Powers & Associates, Inc.
4.18 Tribal Cultural Resources	DayZen, LLC; Holman & Associates, Inc.; David J. Powers & Associates, Inc.
4.19 Utilities and Service Systems	DayZen, LLC; David J. Powers & Associates, Inc.
4.20 Wildfire	DayZen, LLC; David J. Powers & Associates, Inc.
4.21 Environmental Justice	DayZen, LLC; David J. Powers & Associates, Inc.
5.0 Alternatives	DayZen, LLC

SECTION 8.0 NOTIFICATION LIST

The Notification List will be provided in a subsequent submittal.