DOCKETED	
Docket Number:	19-SPPE-03
Project Title:	Sequoia Data Center
TN #:	236919
Document Title:	Revised Initial Study and Proposed Mitigated Negative Declaration
Description:	CEC staff's identification of all replacements, additions, substitutions, and corrections from the previously filed Initial Study/Proposed Mitigated Negative Declaration.
Filer:	Steve Kerr
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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State of California **The Resources Agency of California**

M e m o r a n d u m

To: Commissioner Karen Douglas, Presiding Member
Commissioner Patty Monahan, Associate Member

Date: February 26, 2021

From: **California Energy Commission**
1516 Ninth Street
Sacramento, CA 95814-5512

Leonidas Payne
Project Manager
(916) 838-2124

Subject: REVISED INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (IS/MND) FOR THE SEQUOIA BACKUP GENERATING FACILITY SMALL POWER PLANT EXEMPTION (19-SPPE-03)

Pursuant to the Committee's Second Revised Scheduling Order dated February 5, 2021, staff is providing revised analysis materials for the Sequoia Backup Generating Facility which reflect the project's switch to Tier-4 compliant engines. As the Committee requested, the revised analysis is presented as underline/strikethrough changes to staff's January 2020 IS/MND. The new underline/strikethrough changes are in bold, to distinguish the revised text from some unbolded underline/strikeout that was original to the IS/PMND (most notably in Chapter 1, Proposed Mitigated Negative Declaration and SPPE Recommendation).

Staff has made revisions to the following IS/MND components, which are included in the attached package:

Title Page (updated date)
Proposed Mitigated Negative Declaration and SPPE Recommendation
Environmental Determination (updated signature and date)
Project Description
Air Quality
Hazards and Hazardous Materials
Land Use
Transportation
Mandatory Findings of Significance
Environmental Justice

For the technical sections listed above, the analysis was updated to incorporate changes to the section as a result of the project's switch to Tier 4 compliant engines, but these changes did not alter staff's conclusion that the project would not result in any significant adverse impacts involving that particular analysis topic. For the remaining technical sections and appendices, staff determined that no updates were necessary.

Overall, the project change to Tier 4 compliant engines did not change staff's proposed finding (see Chapter 1, Proposed Mitigated Negative Declaration and SPPE Recommendation) that the project will not have a significant effect on the environment and energy resources, nor its recommendation that the project be exempted from CEC jurisdiction and that further permitting be handled at the local permitting level. Nor are any new or modified mitigation measures needed in response to the project change.

Declarations are being provided in support of this additional testimony and staff affirms our recommendation from the February staff report that no additional evidentiary hearings are needed to accept this minimal additional analysis into the record.

Initial Study

Sequoia Data Center

(19-SPPE-03)

Lead Agency

California Energy Commission

February 2021 (revised)

CALIFORNIA ENERGY COMMISSION
STATE OF CALIFORNIA – NATURAL RESOURCES AGENCY
Gavin Newsom, *Governor*
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SACRAMENTO, CA 95814-5512
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Proposed Mitigated Negative Declaration and SPPE Recommendation

Sequoia Data Center Project

19-SPPE-03

1. Proposed Mitigated Negative Declaration

1.1 Project Information

Project: Sequoia Data Center
2600 De La Cruz Boulevard
Santa Clara, California

Applicant: C1-Santa Clara, LLC
Represented by DayZen, LLC
2501 Capitol Avenue, Suite 201
Sacramento, CA 95816

C1-Santa Clara, LLC proposes to construct the Sequoia Data Center, which would include data center buildings and a backup energy generating facility with a generation capacity up to 96.5 megawatts (MW). The California Energy Commission (CEC) is responsible for reviewing, and ultimately approving or denying, all thermal electric power plants, 50 MW and greater, proposed for construction in California. The CEC has a regulatory process, referred to as the Small Power Plant Exemption (SPPE) process, which allows applicants with projects between 50 and 100 MW to obtain an exemption from the CEC's jurisdiction and proceed with local approval rather than requiring a CEC license. The CEC can grant an exemption if it finds that the proposed project would not create a substantial adverse impact on the environment or energy resources.

1.2 Introduction

Pursuant to the California Environmental Quality Act (CEQA), the CEC prepared an Initial Study (IS) for the Proposed Project to determine if any significant adverse effects on the environment would result from project implementation. The IS utilizes the environmental checklist outlined in Appendix G of the CEQA *Guidelines*. If the IS for the project indicates that a significant adverse impact could occur, the CEC would be required to prepare an Environmental Impact Report.

According to Article 6 (Negative Declaration Process) and Section 15070 (Decision to Prepare a Negative Declaration or Mitigated Negative Declaration) of the CEQA *Guidelines*, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

(a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or

(b) The initial study identifies potentially significant effects, but:

(1) Revisions in the project plans or proposals made by, or agreed to by, the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

1.3 Project Description

The applicant proposes to construct and operate the Sequoia Data Center (SDC or project) in Santa Clara, California. The project would include grading of the currently vacant site to construct a four-story 703,450 square foot data center building, substation, generator equipment yard, surface parking and landscaping. The associated Sequoia Backup Generating Facility (SBGF) would consist of a total of fifty-four diesel fired generators that would be used exclusively to provide backup generation to support the Critical Information Technology (IT) load of the server bays, mechanical cooling loads, and house power backup. The maximum electrical load of the SDC would be to 96.5 MW. **Each of the 54 generators would be a Tier-4 standby diesel-fired generator equipped with the Miratch system which includes both selective catalytic reduction (SCR) system and diesel particulate filters (DPF). The SCR system would use urea which will be stored in one 1,500 gallon tank for each pair of generators.**

The SDC building would house computer servers for private clients in a secure and environmentally controlled structure and would be designed to provide 67.5 MW of Critical IT power. Approximately 70,000 square feet would be dedicated for administrative and office uses.

The 54 backup generators would be located in a generation yard along the west and south sides of the SDC building. Each backup generator is proposed as a fully independent package system with a dedicated and integrated fuel tank located below the bottom level of the generator. **Each generator package would be set below grade such that the diesel fuel tank would be entirely below grade in a concrete basin as outlined in the previously docketed letter from the Santa Clara County Airport Land Use Commission (ALUC) dated December 20, 2019 (TN 231355). Each of the urea tanks would also be placed below grade in the concrete basin between the two generators each tank would serve.**

The generation yard would be electrically interconnected to the SDC building through above-ground cables to a location within the building that houses electrical distribution equipment. The SDC would include construction of a new 100 megavolt amps (MVA) electrical substation in the western portion of the site. The substation would be capable of delivering electricity to the SDC from SVP but would not allow any electricity generated from the SBGF to be delivered to the transmission grid.

1.4 Environmental Determination

The IS was prepared to identify the potential environmental effects resulting from proposed project implementation, and to evaluate the level of significance of these effects. The IS is based on information from the applicant's SPPE application and associated submittals, site visits, data requests and responses, and additional staff research.

Based on the analysis in the IS, it has been determined that all Sequoia Data Center project-related environmental impacts could be reduced to a less than significant level with the incorporation of feasible mitigation measures. Therefore, adoption of a Mitigated Negative Declaration (MND) will satisfy the requirements of CEQA. The mitigation measures included in this MND are designed to reduce or eliminate the potentially significant environmental impacts described in the IS. Where a measure described in this document has been previously incorporated into the project as a specific project design feature, this is noted in the technical sections. Mitigation measures are structured in accordance with the criteria in Section 15370 of the *CEQA Guidelines*.

1.5 Applicant-Proposed Design Measures/Mitigation Measures

Staff concludes that implementation of the following applicant proposed design measures (APMs), augmented by mitigation language developed by staff and agreed to by the applicant, would avoid potentially significant impacts identified in the Initial Study or reduce them to less than significant levels. For the sake of clarity, original APM language that has been replaced has been struck through and new mitigation measures prompted by Staff's analysis are underlined.

Air Quality

AQ-1: To assure fugitive dust impacts are less than significant, the Applicant will incorporate the Bay Area Air Quality Management District's (BAAQMD) recommended best management practices (BMPs) as a project design feature. These project design features will include:

- All exposed surfaces (for example, 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 offsite 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 surfaces shall be limited to 15 miles per hour.
- 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 Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling [Title 13, Section 2485, 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 visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and name of the 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.

AQ-2: C1 commits to standard operating procedures that will limit operation for maintenance and testing to one generator at a time. It is C1's experience that maintenance and testing of each engine rarely exceeds 10 hours annually. **[SBGF only]**

Biological Resources

~~**BIO-1:** In order to reduce impacts to biological systems and communities, the following measures shall be implemented:~~

- ~~Schedule tree removal activities between September 1 and January 31 (inclusive) to avoid the nesting season (including for raptors) and no additional surveys would be required.~~
- ~~If construction tree removal would take place between February 1 and August 31, pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed.~~
- ~~Surveys will be completed no more than seven days prior to the initiation of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., shrubs) in and immediately adjacent to the construction area for nests.~~
- ~~If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species). This will ensure that no nests of species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code will be disturbed during project implementation.~~
- ~~A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the Planning Department prior to the start of construction.~~

~~**BIO-2:** The following pre-construction and construction period measures shall be undertaken to avoid impacts to sensitive wildlife species:~~

- ~~A qualified biologist shall conduct preconstruction surveys for burrowing owls prior to construction. Should these surveys identify burrowing owls on or near the SDC site, avoidance of disturbance to the burrow will be conducted as outlined below:~~
    - ~~If an active burrowing owl nest is identified near a proposed work area, work will be conducted outside of the nesting season (March 15 to September 1).~~
    - ~~If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season, a qualified biologist will establish a no-activity zone. The no-activity zone will be large enough to avoid nest abandonment and will at minimum be 250-foot radius from the nest.~~
    - ~~If burrowing owls are present within the construction footprint during the non-breeding period, a qualified biologist will establish a no-activity zone of at least 150 feet.~~
    - ~~If an effective no-activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, and the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.~~
- ~~Prior to construction, employees and contractors performing construction activities will receive environmental sensitivity training from a qualified wildlife biologist. Training will include review of environmental laws and avoidance and minimization measures that must be followed by all personnel to reduce or avoid effects on covered species during construction activities. A brief presentation by a~~

~~qualified wildlife biologist will explain potential wildlife concerns to contractors, their employees, and agency personnel involved in the project. Fact sheets conveying this information and an educational brochure containing color photographs of burrowing owls will be prepared for distribution to the above-mentioned people and anyone else who may enter the project area.~~

- ~~Environmental tailboard trainings will take place on an as-needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects on these species during construction activities. Directors, Managers, Superintendents, and the crew foremen and forewomen will be responsible for ensuring that crewmembers comply with the guidelines.~~

MM BIO-1 Environmental Sensitivity Training for Avoidance of Biological Resource Impacts. The following pre-construction and construction period measures shall be undertaken to avoid impacts to sensitive wildlife species:

- Prior to construction, employees and contractors performing construction activities will receive environmental sensitivity training from a qualified wildlife biologist. Training will include review of environmental laws and avoidance and minimization measures that must be followed by all personnel to reduce or avoid effects on special-status species, including birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code, during construction activities. A brief presentation by a qualified wildlife biologist will explain potential wildlife concerns to contractors, their employees, and agency personnel involved in project construction. The training will include information on situations when it is necessary to contact a qualified biologist (e.g., should any sensitive biological resources such as an active nest be found during construction). Fact sheets conveying this information and an educational brochure containing color photographs of western burrowing owls will be prepared for distribution to the above-mentioned people and anyone else who may enter the project site. A record of all trained personnel will be kept on site, and a sticker indicating training completion will be worn on all worker hard hats.

- Environmental tailboard trainings will take place on an as-needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the special-status species, including birds protected under the MBTA and California Fish and Game Code, and guidelines that must be followed by all personnel to reduce or avoid negative effects on these species during construction activities. Directors, Managers, Superintendents, and the crew foremen and forewomen will be responsible for ensuring that crewmembers comply with the guidelines.

MM BIO-2. Western Burrowing Owl Avoidance and Minimization Measures (Supersedes APM BIO-2). The following pre-construction and construction period measures shall be undertaken to avoid impacts to western burrowing owl:

- A qualified wildlife biologist shall conduct preconstruction surveys of the entire project site, plus all accessible areas of suitable habitat within a 250-foot radius from the project footprint for burrowing owls prior to construction. Surveys shall follow the most recent California Department of Fish and Wildlife (CDFW) recommendations currently found in Appendix D of the 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation. The final survey shall be conducted within the 24-hour period prior to the initiation of project activities in any given area. Should these surveys identify burrowing owls on or near the project site, avoidance of disturbance to the burrow will be conducted as outlined below:

- If an active burrowing owl burrow (including burrow surrogates) is identified near a proposed work area, work will be conducted outside of the breeding season (February 1–August 31).
- If an active nest is identified near a proposed work area and work cannot be conducted outside of the breeding season, a qualified biologist will establish a no activity zone. The no activity zone will be large enough to avoid nest abandonment and will at minimum be a 250-foot radius from the burrow (including burrow surrogates).
- If burrowing owls are present within the construction footprint during the non-breeding period (September 1–January 31), a qualified biologist will establish a no-activity zone of at least 150 feet around the occupied burrow(s) (including burrow surrogates).
- The applicable buffer zone will be marked in the field with exclusion fencing and no construction activities, tree removal, or vegetation clearing shall occur within the buffer zone.
- If monitoring by a qualified biologist indicates that the owls are no longer nesting or the young owls are foraging independently, the buffer may be reduced prior to August 31, in consultation with CDFW.
- A qualified biologist will monitor the site consistent with the requirements described above to ensure that buffers are enforced and owls are not disturbed.
- If an effective no-activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, and the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls. The plan shall be approved by the city of Santa Clara in consultation with CDFW.
- If pre-construction surveys are conducted during the non-breeding season (September 1 through January 31) and burrowing owls are observed on the site, burrows may be removed only if the owls are properly passively relocated following CDFW guidelines. Passive relocation, using one-way doors, may only occur in accordance with an approved Burrowing Owl Exclusion Plan (BOEP). The plan shall be approved by the city of Santa Clara in consultation with CDFW.
- Loss of occupied burrowing owl burrows will be mitigated offsite at a 3:1 ratio. A mitigation plan shall be included as part of the BOEP and shall be approved by the city of Santa Clara in consultation with CDFW.

MM BIO-3: Nesting Bird Avoidance and Minimization Measures. (Supersedes APM BIO-1). In order to reduce impacts to nesting birds the following measures shall be implemented:

- Avoidance of Nesting Bird Season. Schedule construction activities, including tree removal, between September 1 and January 31 (inclusive) to avoid the nesting season (including for raptors). The nesting season for most birds, including most raptors, in the San Francisco Bay Area extends from February 1 through August 31.
- Pre-construction/Pre-disturbance Surveys for Nesting Birds. If it is not possible to schedule construction and tree removal between September and January, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests shall be

disturbed during project implementation. This survey shall be completed no more than 7 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the breeding season.

- During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within and immediately adjacent to the construction area for nests.
- If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest (typically 250 feet for raptors and 50 to 100 feet for other species) to ensure that nests of bird species protected by the MBTA or Fish and Game code shall not be disturbed during project construction.
- In order to determine the extent of the construction-free buffer zone, the ornithologist shall document pre-construction baseline monitoring of the nest to characterize "normal" bird behavior. The ornithologist shall monitor the nesting birds and shall increase the buffer if the ornithologist determines that the birds are showing signs of unusual or distressed behavior by project activities. Abnormal nesting behaviors which may cause reproductive harm include, but are not limited to, defensive flights/vocalizations directed towards project personnel, standing up from a brooding position, and flying away from the nest.
- If an active nest is found in a tree proposed for removal, tree removal shall be postponed until an ornithologist has determined that the young have fledged or the nest is no longer active due to predation or abandonment.
- A final report indicating the result of the survey and any designated buffer zones for nesting birds, including any protection measures, shall be submitted to the Director of Community Development prior to the start of ground disturbance, grading and/or tree removal.

MM BIO-4: Prior to issuance of building permits, the applicant shall submit a Tree Replacement Plan to the City Arborist and Community Development Department for review and approval. The Plan shall provide for equivalent replacement of any tree removed from the project site, as follows:

- The project sponsor shall replace removed trees at a 2:1 ratio within the project site. If 2:1 replacement is not feasible because of site constraints, the project sponsor may instead replace trees at a 1:1 ratio within the project site with approval from the Community Development Director if the tree is larger in size and an appropriate species. Tree species and sizes shall be reviewed and approved, as applicable, by the City arborist.
- The 24-inch box of a replacement tree may be increased to either a 36- inch box or a 48-inch box to supplement the on-site tree planting plan. If trees are replaced at a 1:1 ratio, the replacement trees shall have a 36- inch box.
- If the removed tree is considered a protected tree it shall have a replacement ratio of 2:1 with a 36- inch box.
- If approved by the Community Development Director, an alternative site, within a 2-mile radius of the project site, shall be identified for any additional tree planting necessary to satisfy the requirement to achieve a 2:1 replacement ratio. Alternative sites may include local parks, schools, and/or street frontages.

Cultural Resources

CULT-1: A qualified archaeologist shall be on site to monitor grading and excavation of soil. The project applicant shall submit the name and qualifications of the selected archeologist to the Director of Community Development prior to the issuance of a grading permit. After monitoring the grading phase, the archaeologist shall make recommendations for further monitoring if it is determined that the site has or may have cultural resources. Recommendations for further monitoring shall be implemented during any remaining ground-disturbing activities. If the archaeologist determines that no resources are likely to be found on site, no additional monitoring shall be required. A letter report summarizing the results of the initial monitoring during site grading and any recommendations for further monitoring shall be provided to the Director of Community Development prior to onset of building construction.

CULT-2: If buried archeological 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 qualified archaeologist shall examine the find and make appropriate recommendations. Recommendations could include collection, recordation, and analysis of any significant cultural materials. A report of findings documenting any data recovery during monitoring shall then be submitted to the Director of Community Development.

CULT-3: In the event that human remains are discovered during SDC construction, all activity within a 50-foot radius of the site shall be halted. 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. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American human remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site.

Geology and Soils

GEO-1: To reduce the risk of damage to the SDC and SBGF as a result of geologic conditions at and near the SDC site, all recommendations outlined in the site-specific geotechnical investigation performed by Kleinfelder in October 2018 will be incorporated into the SDC and SBGF. These measures have been designed and will be incorporated to reduce the risk of settlement, liquefaction, and damage from expansive soils to ensure that users of the project are not exposed to a significant safety risks as a result of the SDC and SBGF. These measures are listed in full in Appendix E [of the SPPE Application]. The mat slab foundation has been designed to CBC seismic standards.

GEO-2: A Worker Environmental Awareness Training Program will be implemented, which will provide training to construction personnel regarding proper procedures (including identification and notification) in the event fossil materials are encountered during construction.

MM GEO-1: If a fossil is found and determined by the approved paleontologist to be significant and avoidance is not feasible, the qualified 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 City shall be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented.

Greenhouse Gas Emissions

GHG-1: BAAQMD construction-period BMPs would be implemented to reduce GHG emissions during construction, as feasible and applicable. BMPs may include use of alternative-fueled (for example, biodiesel or electric) construction vehicles and equipment for at least 15 percent of the fleet, use of at least 10 percent of local building materials, and recycling or reusing at least 50 percent of construction waste.

GHG-2: To reduce GHG emissions and the use of energy related to building operations, the SDC chillers would be installed with variable frequency drives to provide efficient operation. **[SDC only]**

GHG-3: Water use reduction measures are also be incorporated in the building design, including the use of air-cooled chillers. Development standards for water conservation would be applied to increase efficiency in indoor and outdoor water use areas. Furthermore, SDC and SBGF would comply with all applicable City and state water conservation (indoor and outdoor) measures, including Title 24 baseline standard requirements for energy efficiency, based on the 2019 Energy Efficiency Standards requirements, and CALGreen. For SDC and SBGF, these measures would include **[SDC only]**:

- Water efficient landscaping that is drought tolerant and low maintenance, consisting of native and regionally appropriate trees, shrubs, and groundcover to minimize irrigation requirements
- Use of air-cooled chillers that do not consume water annually

GHG-4: SDC and SBGF would be required to participate in the City's Construction and Demolition Debris Recycling Program by recycling or diverting at least 50 percent of waste materials generated. Additionally, as mitigation incorporated into the project, at least 75 percent of construction waste would be diverted and high-recycled content material would be used where feasible.

GHG-5: As a condition of approval, SDC and SBGF construction would follow BAAQMD construction BMPs including limiting idling times to 5 minutes or less and limiting vehicle speeds to 15 miles per hour or less.

GHG-6: If required by the City as a design review condition, solar panels would be installed at the SDC. **[SDC only]**

GHG-7: SDC would include bicycle and pedestrian amenities consistent with the City's requirements. **[SDC only]**

GHG-8: SDC would include electrical vehicle charging stations. **[SDC only]**

GHG-9: SDC would use 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 proposed building would limit water consumption. In addition, SDC would have a "Cool Roof," using

reflective surfaces to reduce heat gains. Waterside economizers would be used to cool data center loads. **[SDC only]**

GHG-10: SDC has a Power Usage Effectiveness of 1.23 and an average rack power rating range of 8 to 10 kilowatts. **[SDC only]**

Hazards and Hazardous Materials

HAZ-1: If contaminated soils from agricultural or industrial use are unexpectedly encountered during any construction activities, work in the area shall be temporarily halted and the corresponding jurisdiction (the City) shall coordinate with the contractor and the Alameda County Environmental Health Department to determine appropriate treatment and removal of contaminated soils.

Noise and Vibration

NOI-1: The applicant shall complete a design level acoustical analysis and include appropriate site and building design, building construction, and noise attenuation techniques to ensure that the SDC's rooftop mechanical equipment meets the City's applicable exterior noise standard at the adjacent land uses. A qualified acoustical consultant shall review the final site plan, building elevations, and roof plan prior to issuance of a building permit to calculate the expected exterior noise levels at nearby land uses and require appropriate noise shielding. The applicant shall implement all recommendations of the acoustical analysis, which may include but not be limited to rooftop screening and/or acoustical wraps. In addition to the noise attenuation techniques that may be identified in the design level acoustical analysis, C1 shall consider the following potential feasible measures that are capable of meeting the City's applicable noise performance standard **[SDC only]**:

> In the realm of physical acoustical screening (like a noise wall), the use of a Perforated Fiberglass Sound-Absorptive Noise Barrier System would allow for a lightweight screening. This solution would provide efficient performance, as the wall system contains no gaps due to its tongue-and-groove design in 12-inch wide segments. This material features a noise reduction coefficient (NRC) rating of 1.05 and sound transmission class (STC) rating of 35. This results in a noise reduction of up to 25 dBA. For application at the SDC, screening would be provided at the perimeter of the rooftop platforms surrounding the air-cooled chillers. The screening walls would be approximately 8 feet high to align with the top of the chiller units.
>
> Noise attenuation wraps for air cooled chillers can be used to produce noise reductions of 4 dBA to about 10 dBA. HUSH COVER™ removable sound blankets attenuate overall decibels and some tonal frequencies. Each chiller would be fitted with the HUSH CORE screw chiller noise reduction system or equal. The chiller noise reduction system to be applied to the suction and discharge piping, compressor housing, and oil separators would be a removable blanket insulation with Velcro flaps. The insulation mass shall be 3 pounds per square foot and shall be applied with 100 percent coverage. The noise reduction product shall be furnished and installed by the manufacturer.

Tribal Cultural Resources

TRIBE-1: A Native American monitor shall be retained to monitor all project-related, ground-disturbing construction activities (e.g., boring, grading, excavation, drilling, trenching). The appropriate Native American monitor shall be selected based on consultation between the City and the NAHC or as a part of

AB 52 consultation (if requested).[1] Monitoring procedures and the role and responsibilities of the Native American monitor shall be outlined in a document submitted to the City prior to construction. In the event the Native American monitor identifies cultural or archeological resources, the monitor shall be given the authority to temporarily halt construction (if safe) within 50 feet of the discovery to investigate the find and contact the assigned on-site archeologist (if not present). The Native American monitor shall be provided an opportunity to participate in the documentation and evaluation of the find. If a Treatment Plan or Data Recovery Plan is prepared, the Native American monitor shall be provided an opportunity to review and provide input on the Plan.

2. Proposed Finding

Based on the Initial Study, attached, staff proposes that the CEC find that the project will not have a significant effect on the environment and energy resources.

3. Small Power Plant Exemption Recommendation

Based on the above, Staff recommends that the Sequoia Data Center Project be exempted from CEC jurisdiction and that further permitting be handled at the local permitting level.

1 In accordance with Section 21080.3.1 of the California Public Resources Code and AB 52, the City has provided a Notice of Opportunity to Native American tribes to request consultation for projects within the city. To date, the City has not received any requests from regional tribes to be included on the AB 52 list.

2. Environmental Determination

2.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" and requiring implementation of mitigation as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture & Forestry Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural and Tribal Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Utilities/Service Systems
☐ Wildfire	☐ Mandatory Findings of Significance	

2.2 Environmental Determination

On the basis of this initial evaluation:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the Proposed Project may have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

2/26/2021

Shawn Pittard, Deputy Director
Siting, Transmission and Environmental Protection Division
California Energy Commission

Date

4. Project Description

C1-Santa Clara, LLC (Applicant) is seeking an exemption from the Energy Commission's jurisdiction (Small Power Plant Exemption, or SPPE) and to proceed with local approval rather than requiring certification by the Energy Commission. In reviewing an SPPE application the Energy Commission acts as the lead agency under section 25519(c) of the Public Resources Code and, in accordance with CEQA, would perform any required environmental analysis.

The applicant proposes to construct and operate the Sequoia Data Center (SDC or project) in Santa Clara, California. The project would include grading of the currently vacant site to construct a four-story 703,450 square foot data center building, substation, generator equipment yard, surface parking and landscaping (Sequoia 2019c). The associated Sequoia Backup Generating Facility (SBGF) would consist of a total of fifty-four diesel fired generators that would be used exclusively to provide backup generation to support the Critical Information Technology (IT) load of the server bays, mechanical cooling loads, and house power backup. The maximum electrical load of the SDC would be up to 96.5 MW.

4.1 Project Title

Sequoia Data Center

4.2 Lead Agency Name and Address

California Energy Commission
1516 Ninth Street
Sacramento, California 95814

4.3 Lead Agency Contact Person and Phone Number

Leonidas Payne, Project Manager
Siting, Transmission and Environmental Protection Division
California Energy Commission
(916) 651-0966

4.4 Project Location

Figure 4-1 shows the regional location and **Figure 4-2** identifies the project location.

4.5 Project Overview

The proposed SDC site encompasses 15 acres and is located at 2600 De La Cruz Boulevard in Santa Clara, California. The property is zoned Heavy Industrial. The site was previously developed with a one-story recycled paperboard mill and warehouse. The mill utilized a combined-cycle cogeneration plant with a natural gas turbine. The majority of the site surfaces were paved. The initial development of the site appears to have been begun in the late 1940s and early 1950s. The site is currently vacant and unpaved. The project proposes to grade the site, install utility connections, and construct a data center building and associated generator equipment yard.

The data center building would house computer servers for private clients in a secure and environmentally controlled structure and would be designed to provide 67.5 MW of Critical IT power. The data center

building would be oriented generally east to west, with surface parking on the northern and eastern sides. The SBGF would be along the western and southern exterior of the data center building. Total permanent employees for operation of the SDC is anticipated to be 25.

The SDC building would include 4 stories and would encompass approximately 702,114 square feet of gross area, of which approximately 70,000 square feet would be dedicated for administrative and office uses. The SDC building would employ a steel structure and insulated pre-cast panel cladding, and has been designed to California Building Code (CBC) seismic standards. The SDC will be supported on a mat slab foundation.

SDC has a typical height of 85 feet from adjacent grade to the top of the main parapet, with a 20-foot floor-to-floor height at each of its four stories. Top of screening, when applicable according to sight lines, will be at 99 feet from adjacent grade. A stair and freight elevator tower at the southeast corner of the site exceed the building in height to allow roof access – the parapet of this element is at a 105-foot elevation.

The building footprint is set back in the following dimensions from the property line:

- East elevation: 76 feet from property line, required setback 15 feet per zoning ordinance
- North elevation: 77 feet from property line, required setback 10 feet per zoning ordinance
- South elevation: 93 feet from property line, required setback 10 feet per zoning ordinance
- West elevation: 216 feet from property line, no required setback per zoning ordinance (rear)

SDC's maximum facility-wide load is estimated at approximately 96.5 megawatts (MW) (see **Appendix A**).

The 54 backup generators would be located in a generation yard along the west and south sides of the SDC building. Each backup generator is proposed as a fully independent package system with a dedicated and integrated fuel tank located below the bottom level of the generator. The generation yard would be electrically interconnected to the SDC building through above-ground cables to a location within the building that houses electrical distribution equipment.

Each set of six generators would be dedicated to serve the Critical IT requirement of a data hall. In addition, each set of six generators would share a portion of the overall building mechanical load, which is primarily driven by cooling of the data hall and the common space of the building (lobby, conference area, hallways, etc.). The SDC would have seven data halls, each designed to provide 7.5 MW of Critical IT as well as four data halls each designed to provide 3.75 MW of Critical IT, for a total Critical IT load of 67.5 MW. The total mechanical building load for the SDC, designed for the hottest day in the last 20 years, is 29 MW. Therefore, the maximum SDC building load would be 67.5 MW Critical IT plus 29 MW of Total Mechanical Building Load, or 96.5 MW.

The SDC would include construction of a new 100 megavolt amps (MVA) electrical substation in the western portion of the site. The three-bay substation (two 60/80/100 MVA 60 kV-25 kV step-down transformers with future spare bay) would have an all-weather asphalt surface underlain by an aggregate base. A concrete masonry unit screen wall, 12 feet in height, would surround three sides of the substation with an 8-foot security fence on the remaining side. The substation would be capable of delivering electricity to the SDC from Silicon Valley Power (SVP), but would not allow any electricity generated from the SBGF to be delivered to the transmission grid.

The main site access would be provided from De La Cruz Boulevard at two access points. At the north De La Cruz Boulevard access point, access would be controlled through security clearance. This clearance occurs through multiple layers on the entry lane, including a gate and an arm barrier with card reader authorization. The secondary De La Cruz Boulevard access would be slightly farther to the south and would allow for exiting only, no entry. In addition, a third secure access for trucks would be constructed on the site from Martin Avenue (along the southernmost property line). At that location, a dedicated SVP lane would be provided for access to the substation. A fire loop drive would be located around the building on all four sides and would connect all entrances. On the north side, the fire lane would allow for aerial access by the fire department. Parking is concentrated along the east elevation of the building near the main entrance, as well as along the north elevation. A total of 140 parking spaces are planned to serve the SDC.

Figure 4-3 shows the general arrangement and site layout of the project. Elevation drawings are presented on **Figures 4-4 and 4-5**.

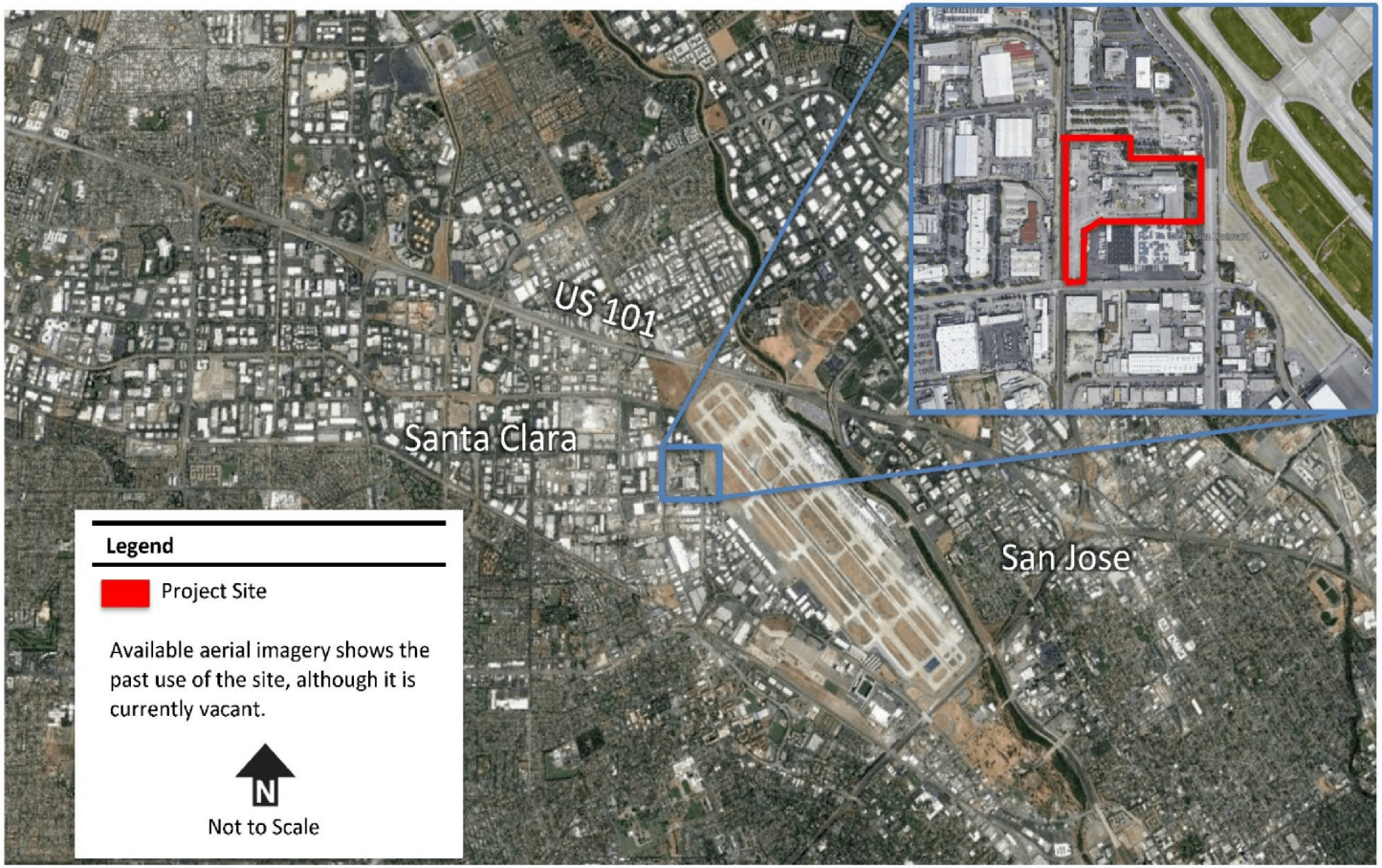

Figure 4-1
Regional Location

Source: Sequoia SPPE Application

Legend

Project Site

Available aerial imagery shows the past use of the site, although it is currently vacant.

N

Not to Scale

Figure 4-2
Site Vicinity

Source: Sequoia SPPE Application

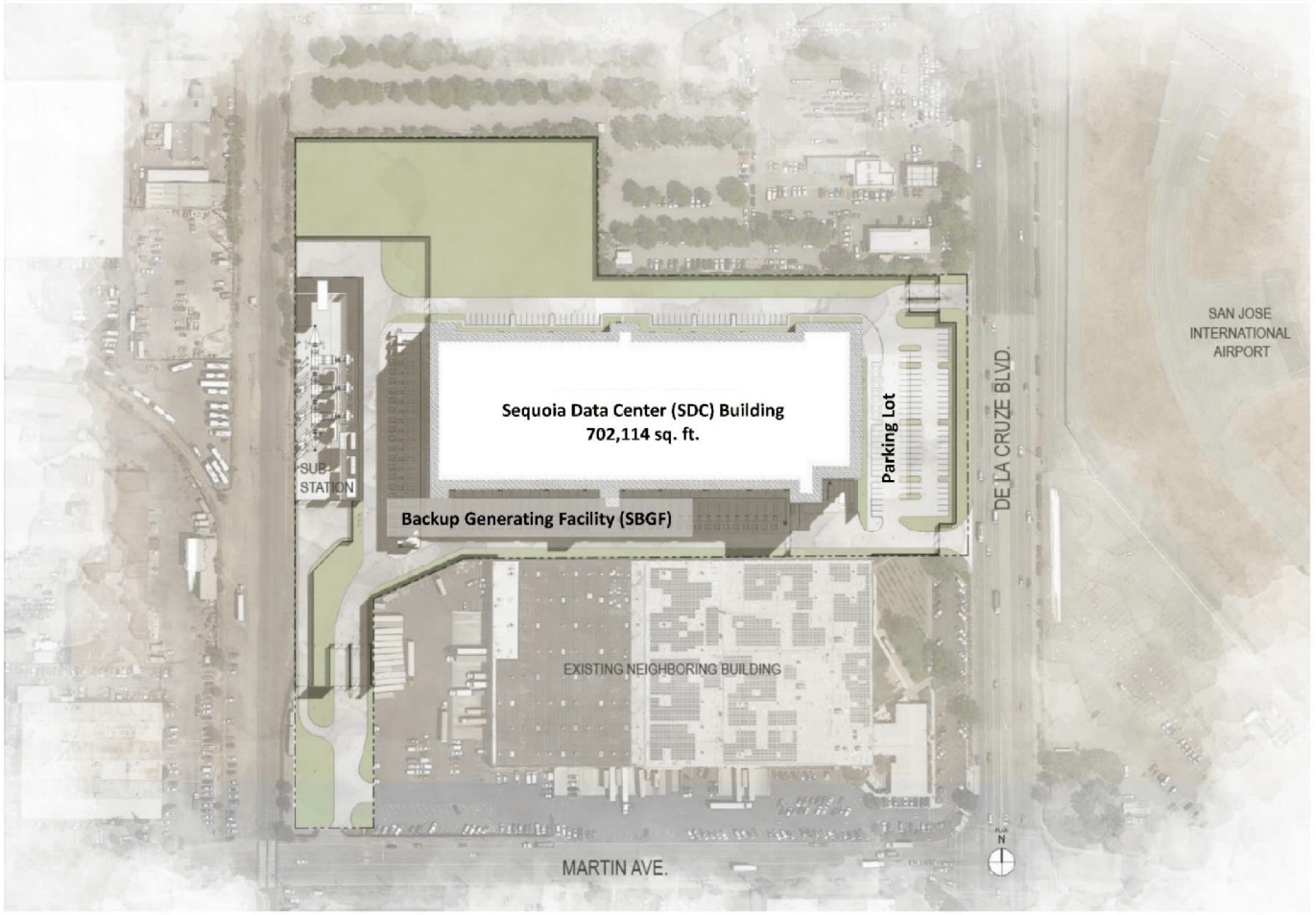

Figure 4-3
Site Plan

Source: Sequoia SPPE Application

PERSPECTIVE – FROM EAST

ELEVATED PERSPECTIVE – FROM SOUTHEAST

Figure 4-4
Exterior Renderings from East and Southeast

Source: Sequoia SPPE Application

PERSPECTIVE – FROM NORTHEAST

ELEVATED PERSPECTIVE – FROM NORTHEAST

Figure 4-5
Exterior Renderings from Northeast

Source: Sequoia SPPE Application

Electrical Supply

Electricity for the SDC would be supplied via a new SDC Substation constructed on the project site, connecting through SVP's 60 kV South Loop. The proposed three-bay substation consists of two 60/80/100 MVA (60/25 kV) transformers and a spare bay. The 60 kV South Loop is fed from Scott Receiving Station (SRS) and Kifer Receiving Station (KRS). Both SRS and KRS are 115/60 kV receiving stations. Both SRS and KRS have two 115/60 kV transformers for redundancy and reliability. The loads on the South Loop can be fully supplied through either of the receiving stations. Staff submitted data requests for a detailed description and schematic diagrams of the proposed SDC Substation and interconnection between SVP and the proposed SDC, but the information was not available to the applicant (Sequoia 2019c, Responses to Data Requests 81 to 83).

Silicon Valley Power System Reliability

The SVP 60 kV loop systems are designed to provide reliable electric service to customers. The looped interconnection allows SVP to provide continuous electricity to customers even under contingency conditions, when one part of the electric network is not functioning. The interconnections for data centers, like the SDC, on the SVP 60 kV system are designed with redundant equipment throughout such that there is no single point of failure. It takes at least two contingencies before customers on the 60 kV system lose power and, in the case of data centers, would instead rely on back-up generators. According to SVP, double outages on the 60 kV loop systems are extremely rare, and the data supports this (see **Appendix B**).

SVP provided a list of all of the outages on its 60 kV system over the last ten-years. There were thirty-one outages, only four of which resulted in customers being without power. This means that in twenty-seven of these outages the redundant design of the system prevented customers from being without power; data centers would not have isolated from the grid and would not have relied on their back-up generators. Only two outages from 2009 to 2019 affected data centers in the SVP service territory. One approximately 7.5 hour outage on May 28, 2016, which was the result of two contingencies (a balloon and a breaker failure), affected two data centers. Another 12 minute outage on December 2, 2016 affected four data centers. SVP's root cause analysis of this outage resulted in changes in maintenance procedures to ensure that breakers are reset before power is restored to a portion of the system that was down for maintenance. Outages would be extremely rare, and the consequences or effects on the fleet of data centers, almost negligible.

Wildfire policies could impact SVP's ability to supply power to customers if curtailments on the Pacific Gas and Electric (PG&E) system interrupt SVP's access to its remote electricity supplies. A Public Safety Power Shutoff (PSPS) essentially de-energizes power lines in order to prevent the lines from causing or being damaged by wildfires. The PSPSs to date have been generally limited to high fire risk zones and only implemented under special conditions. While the SVP service territory and the SVP's primary PG&E bulk transmission line interconnection points are not in high risk zones, a line de-energization in one of PG&E's high risk fire zones to reduce the risk of lines causing a wildfire could reduce the SVP electricity transmission access and supply through PG&E lines. The future impact of safety shutoffs on the PG&E system are not currently known – to date, two broadly implemented PSPSs in PG&E service territory last fall had no impact on SVP and its customers. As the utilities and regulators try to balance the costs and benefits of PSPS by fine tuning and targeting the implementation, the mostly likely outcome is that future PSPS will have even less potential effects on SVP service territory. SVP has the ability to produce about 200 MW through generators located locally, and can adapt to planned outages on the PG&E system just

as they have reacted or recovered from unplanned outages in the past to maintain reliable and high quality electricity supplies to their service territory customers.

Electrical System Engineering

The SDC's purpose is to provide its customers with mission-critical space to support their servers, including space conditioning (temperature control) and a steady stream of high-quality power supply. Interruptions of power could lead to server damage or corruption of the data and software stored on the servers. To ensure a reliable supply of high-quality power, the SBGF was designed to provide backup electricity to the SDC only in the event electricity cannot be supplied from SVP and delivered to the SDC building. To ensure no interruption of electricity service to the servers housed in the SDC building, the servers would be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from power quality transients and power interruptions. To provide electricity during a prolonged electrical interruption, a backup power generation source is required to continue supplying steady power to the servers and other equipment. The SBGF would provide that backup power.

Each electrical system would consist of a UPS system that would be supported by batteries, electrical switchgear, an electrical inverter, and portions of the SBGF backup generation. The UPS batteries would protect the load against surges, sags, under voltage, and voltage fluctuation without fully isolating SDC from the grid and initiating operation of the SBGF. However, if the UPS sensed a complete loss of grid power, it would isolate SDC from the grid, supply power from its batteries to maintain data integrity while the standby generators in SBGF started and came up to synchronized speed to deliver IT and building load power during grid isolation; the UPS would continue to condition the power from SBGF to prevent SBGF power quality transients from damaging SDC equipment.

The UPS would have built-in protection against permanent damage to itself and the connected load for all predictable types of malfunctions. The load would be automatically transferred to the bypass line without interruption in the event of an internal UPS malfunction. The UPS systems that would be deployed at the SDC would consist of one (1) 1500 kilo-volt ampere (KVA) UPS unit to provide "N Unit" of redundancy for a critical capacity of 1.5 MW. Six 1.5 MW UPS systems would equally share a maximum 7.5 MW critical load. The system would work as a distributive redundant (6 to make 5) N+1 system such that if any single N system were to catastrophically fail, the surviving 5 would have sufficient capacity to provide power to the maximum critical load. There are nine of these 6-to-make-5 systems proposed in the SDC.

Electrical Generation Equipment

Each of the 54 generators would be a Tier-**4~~2~~** standby diesel-fired generator equipped with **the Miratch system which includes both selective catalytic reduction (SCR) system and** diesel particulate filters (DPF). The generators would be MTU model 16V4000 DS2250. The maximum peak rating of the DS2250 is 2250 kW with a steady-state continuous generating capacity of 1.91 MW. Specification sheets for each manufacturer and evidence of the steady-state continuous ratings of the generators are provided in Appendix C of the SPPE Application.

Each individual generator would be provided with its own package system. Within that package, the prime mover and alternator would be made ready for the immediate call for the request for power controlled by the UPS. The generator package would integrate a dedicated fuel tank with a capacity of 6,800 gallons **and SCR to reduce NOx emissions. The SCR system would use urea which will be stored in one 1,500 gallon tank for each pair of generators**. The generators would be located in a generator yard along the

west and south sides of the building. The generator~~s~~ **enclosures** are approximately **11~~13~~** feet wide, **34~~37~~** feet long, and **24~~17~~** feet high. Each generator on the western side of the SDC would have a stack height of approximately 38 feet 9 inches. Each generator along the southern side of the SDC would have a stack height of approximately 24 feet 9 inches. **Additonally, each generator package would be set below grade such that the diesel fuel tank would be entirely below grade in a concrete basin as outlined in the previously docketed letter from the Santa Clara County Airport Land Use Commission (ALUC) dated December 20, 2019 (TN 231355). Each of the urea tanks is approximately 4 feet wide and approximately 18 feet long and would also be placed below grade in the concrete basin between the two generators each tank would serve.** ~~**When placed on slab, they**~~ **The generators** would be spaced approximately 5 feet apart horizontally. The generator yards would have 20-foot-high precast concrete screen walls and an 8-foot-high decorative metal fence.

Fuel System

The backup generators would use ultra-low sulfur diesel as fuel (<15 parts per million sulfur by weight). The 54 generators would have a combined diesel fuel storage capacity of 367,200 gallons, designed to provide 24 hours of emergency generation at full demand of the SDC. In a subsequent filing (TN 230893), the applicant informed CEC that the fuel tanks would be lowered four feet seven inches below grade into a concrete pit to maintain consistency with the Santa Clara County Airport Land Use Commission Comprehensive Land Use Plan.

Cooling System

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

Water Supply and Use

The SBGF would not require any consumption of water. The SDC will use approximately 5 acre-feet per year of potable water for domestic and irrigation uses to be supplied by the City via a new pipeline from the building to an interconnection with an existing water pipeline located in De La Cruz Boulevard. Chilled hydronic water piping would require an initial one-time water use of approximately 0.5 acre-feet prior to commercial operation.

As part of the construction of the new data center building, domestic water, fire water, and sanitary sewer connections would be installed through an extension of utility lines from City infrastructure systems located along De La Cruz Boulevard. The potable water system for the building would be served with a 4-inch to 6-inch service to accommodate the data center water demand.

Waste Management

The SBGF would not create any waste materials other than minor amounts of solid waste created during construction and maintenance activities. The SDC would generate sanitary sewage which would be sent via underground pipeline from the building to an interconnection with an existing sewer pipeline located in De La Cruz Boulevard.

Hazardous Materials Management

The project would require the preparation of 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 tank would be continuously monitored electronically for the presence of liquids. This monitoring system would be electronically linked to an alarm system in the security office. This system would alert personnel if a leak is detected. Additionally, the standby generator units would be housed within a self-sheltering enclosure that prevents the intrusion of storm water.

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

The SBGF would not include loading/unloading racks or containment for re-fueling events; however, a spill catch basin would be located at each fill port for the generators. To prevent a release from entering the storm drain system, drains would be blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices would be kept in the 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 would be scheduled at times when storm events are improbable.

Warning signs and/or wheel chocks would 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 would be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures would be posted at the loading and unloading areas.

Additonally, the generator package would be set below grade such that the diesel fuel tank would be entirely below grade in a concrete basin as outlined in the previously docketed letter from the Santa Clara County Airport Land Use Commission (ALUC) dated December 20, 2019 (TN 231355).

To meet the Tier 4 emission standards, urea is used to enable the SCR system to achieve NOx emission reduction. The urea tanks would also be below grade in the concrete basin, as described above.

4.6 Existing Site Condition

The proposed SDC site encompasses 15 acres and is located at 2600 De La Cruz Boulevard in the City, California, assessor's parcel number (APN) 230-03-105. The property is zoned Heavy Industrial. The site was previously developed with a one-story recycled paperboard mill and warehouse. The mill utilized a combined-cycle cogeneration plant with a natural gas turbine. The majority of the site surfaces were paved. The initial development of the site appears to have been begun in the late 1940s and early 1950s. The site is currently vacant and unpaved.

The property is bound to the north by an Enterprise Rent-a-Car Facility, to the south by a furniture warehouse, to the east by the San Jose International Airport, and to the west by warehouse structures. The project area consists primarily of industrial land uses. Buildings in the area are generally similar in height and scale. The airport is approximately 100 feet east of the site.

4.7 Project Construction

Demolition

The City of Santa Clara issued a demolition permit to C1 on February 7, 2019 and at the time of the filing, demolition activities had been completed for every project feature except for piping and miscellaneous infrastructure associated with the former cogeneration facility.

Construction

The site grading plan includes the pad grading for the building, rough and fine grading of parking lot, sidewalks, driveways and landscape areas including bioretention planters. The fills and cuts would be between 2 to 3 feet. The expected volume of cut material is 12,500 cubic yards and the anticipated amount of fill material is 11,300 cubic yards. Excavation spoils for footings and utility trenches would be used within parking lot areas or hauled off. Grindings from existing concrete and asphalt would be reused for parking and building areas.

Construction of the SDC and SBGF would require the removal of 66 trees on-site. A total of 114 replacement trees would be planted in at-grade planters on and around the site, replacing trees at a 1:1 replacement ratio. New landscaping would be drought tolerant and low maintenance, consisting of native and regionally appropriate trees, shrubs, and groundcover to be installed throughout the SDC site and along the property boundaries in similar hydrozones. Trees would be planted five feet away from new or existing water mains or utility lines. Irrigation design will comply with the requirements of the California Model Water Efficient Landscape Ordinance, Santa Clara, and Santa Clara County guidelines. The irrigation system will be a fully automatic weather-based system using rain sensor, low flow drip, and bubbler distribution. The system will include a master control valve and flow sensing capability which will shut down all or part of the system if leaks are detected.

The SDC includes construction of stormwater infiltration treatment areas consisting of 18-inch sand loam and 12-inch rock with perforated pipe. The stormwater treatment areas total approximately 18,250 square feet. The stormwater treatment areas would be located around the perimeter of the site and adjacent to paved parking areas. The existing stormwater lift station located on the southwest corner of the site would be removed, and the existing 24-inch storm connection to De La Cruz Boulevard would be replaced or repaired. Repair would include cleaning out the pipe to remove debris. The existing manhole in street would need to be raised, as it is presently paved over.

No storm drain connections to the new building are proposed, as the runoff from the new building is required to be treated on-site in accordance with C.3 regulations. Runoff from the new building would be collected from the roof downspouts and conveyed via an on-site storm drain system to the stormwater planter areas for treatment. Site runoff is designed to surface flow to the treatment planters. The overflow structures from the treatment planters would then direct the overflow runoff through an onsite storm drain system to the public storm system in De La Cruz Boulevard.

As part of the construction of the new data center building, domestic water, fire water, sanitary sewer, fiberoptic, and natural gas connections would be installed through an extension of utility lines from City infrastructure systems located along De La Cruz Boulevard.

The potable water system for the building would be served with a 4-inch to 6-inch service to accommodate the data center water demand. A looped 10-inch fire service line would be installed with fire hydrants

spaced evenly every 300 feet around the building. A new fire pump would be provided to accommodate required sprinkler flows for the building. A 6-inch sanitary sewer connection is proposed for the project from De La Cruz Boulevard. An electrical substation would be constructed on site to meet the electrical requirements of the data center. Gas services would be provided from De La Cruz Boulevard.

Since the site preparation activities for the SDC would include the ground preparation and grading of the entire SDC site, the only construction activities for the SBGF would involve construction of the generation yard, including the below-grade concrete pits where the fuel **and urea** tanks would be located. This would include construction of concrete slabs, fencing, installation of above-ground conduit and electrical cabling to interconnect to the SDC Building switchgear, and placement and securing of the generators.

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

C1 would construct a new distribution substation to support the SDC. The 60-kV side of the substation would ultimately be owned and operated by SVP as part of its distribution network. The transformers and secondary substation will be owned and operated by C1. The new substation would be interposed on SVP's South Loop between the 115-kV receiving station and an adjacent 60 kV substation. The South Loop terminal ends are comprised of 115 kV receiving stations (#1 and #2) which are connected to the greater SVP Bulk Electric System. Each 115-kV receiving station steps the voltage down to SVP's service territory transmission voltage of 60 kV. Reliability is maintained such that, if there is a fault along any section of the Loop, electric service is still supplied from the receiving stations from either end.

The new conductor that interconnects the new substation to the bulk electrical system will be an aluminum conductor composite reinforced type, size 715 double bundle with a carrying capacity of 310 MVA. SVP's general practice is to use tubular steel transmission poles for the two dead end structures. While SVP has not yet designed the 60 kV transmission lines that interconnect the new substation, the transmission line that currently passes near the western property line on the railroad right-of-way will be intercepted and rerouted into the new substation to form a loop on the SVP 60 kV transmission system. Each line terminal and transformer tap will be protected by 60 kV breakers.

4.8 Construction Schedule

Grading, utility installation, and building construction activities would last approximately 13 months. Construction of the generation yard and placement of the generators is expected to take 6 months. Project construction would employ an average of 125 workers per month and have a peak workforce of 300 workers per month.

4.9 Facility Operation

The backup generators would be run for short periods for testing and maintenance purposes. Other than maintenance and testing, the generators would not be operated unless there is a disturbance or interruption of the utility supply. The Bay Area Air Quality Management District's (BAAQMD) Authority to Construct and the California Air Resources Board's (CARB) Airborne Toxic Control Measures (ATCM) limits each engine to no more than 50 hours of operation annually for reliability purposes (i.e., testing and maintenance). However, it is C1's experience that maintenance and testing of each engine rarely exceeds

10 hours annually. In addition, C1 will only operate one engine at a time for maintenance and testing activities.

4.10 Project Design Measures

The applicant has incorporated numerous design measures into the project to avoid environmental impacts. Since these measures address specific technical areas, they are listed in the technical sections that follow this project description chapter, along with a discussion of any changes prompted by Staff's analysis.

4.11 References

Sequoia 2019a – Application for Small Power Plant Exemption: Sequoia Data Center, dated August, 2019. (TN 229419-1). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

Sequoia 2019c – Applicant responses to Data Request Set 1. (TN 229938-1/2, 229973, 230507, and 230893). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

5.3 Air Quality

This section describes the environmental and regulatory setting and discusses impacts associated with the construction, readiness testing and maintenance, and potential emergency operation of the Sequoia Data Center (SDC) and the Sequoia Backup Generating Facility (SBGF, or project) with respect to air quality. It is important to note that intermittent and standby emitting sources, like those proposed in this project, could operate for emergency use, and such emergency operations would be infrequent and for unplanned circumstances, which are beyond the control of the project owner. Emergency operations and the impacts of air pollutants during emergencies are generally exempt from air district permitting. Emissions from emergency operation are not regular, expected, or easily quantifiable such that they cannot be analyzed with certainty.

AIR QUALITY Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. **Would the project:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. 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?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental checklist established California Environmental Quality Act (CEQA) Guidelines, Appendix G.

5.3.1 Setting

Criteria Pollutants

The United States Environmental Protection Agency (US EPA) and the California Air Resources Board (ARB) have established ambient air quality standards for several pollutants based on their adverse health effects. The US EPA has set National Ambient Air Quality Standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than or equal to 10 microns (PM10), fine particulate matter less than or equal to 2.5 microns (PM2.5), sulfur dioxide (SO_2), and lead (Pb). These pollutants are commonly referred to as "criteria pollutants". Primary standards were set to protect public health; secondary standards were set to protect public welfare against visibility impairment, damage to animals, crops, vegetation, and buildings. In addition, ARB has established California Ambient Air Quality Standards (CAAQS) for these pollutants, as well as for sulfate (SO_4), visibility reducing particles, hydrogen sulfide (H_2S), and vinyl chloride. California standards are generally stricter than national standards. The standards currently in effect in California and relevant to the project are shown in **Table 5.3-1**.

Attainment Status and Air Quality Plans

The US EPA, ARB, and the local air districts classify an area as attainment, unclassified, or nonattainment. The classification depends on whether the monitored ambient air quality data show compliance, insufficient data are available, or non-compliance with the ambient air quality standards, respectively. The proposed project would be located in Santa Clara County in the San Francisco Bay Area Air Basin (SFBAAB),

under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). **Table 5.3-2** summarizes attainment status for the relevant criteria pollutants in the SFBAAB with both the federal and state standards.

TABLE 5.3-1 NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [a]	National Standards [b]	
			Primary	Secondary
O_3	1-hour	0.09 ppm (180 µg/m^3)	—	Same as Primary Standard
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
PM10	24-hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Mean	20 µg/m^3	—	
PM2.5	24-hour	—	35 µg/m^3	Same as Primary Standard
	Annual Mean	12 µg/m^3	12 µg/m^3	15 µg/m^3
CO	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
NO_2	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3) [c]	—
	Annual Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
SO_2 [d]	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
	3-hour	—	—	0.5 ppm (1,300 µg/m^3)
	24-hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas) [d]	—
	Annual Mean	—	0.030 ppm (for certain areas) [d]	—

Notes: ppm=parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; "—" = no standard

[a] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded.

[b] National standards (other than O_3, PM, NO_2 [see note c below], and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

[c] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. With a complete year of data, this compares to the highest 1-hour concentration on the 8th highest day.

[d] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Source: ARB 2016

Overall air quality in the SFBAAB is better than most other developed areas in California, including the South Coast, San Joaquin Valley, and Sacramento regions. This is due to a more favorable climate, with cooler temperatures and regional air flow patterns that transport pollutants emitted in the air basin out of the air basin. Although air quality improvements have occurred, violations and exceedances of the state ozone and PM standards continue to persist in the SFBAAB, and still pose challenges to state and local air pollution control agencies (ARB 2013). The project area's proximity to both the Pacific Ocean and the San Francisco Bay has a moderating influence on the climate. This portion of the Santa Clara Valley is bounded by the San Francisco Bay to the north, the Santa Cruz Mountains to the southwest, and the Diablo Range to the east. The surrounding terrain greatly influences winds in the valley, resulting in a prevailing wind that flows along the valley's northwest-southeast axis.

Pollutants in the air can cause health problems, especially for children, the elderly, and people with heart or lung problems. Healthy adults may experience symptoms during periods of intense exercise. Pollutants can also cause damage to vegetation, animals, and property.

TABLE 5.3-2 ATTAINMENT STATUS FOR SFBAAB

Pollutant	Averaging Time	State Designation	Federal Designation
O_3	1-hour	Nonattainment	—
	8-hour	Nonattainment	Nonattainment
PM10	24-hour	Nonattainment	Unclassified
	Annual	Nonattainment	—
PM2.5	24-hour	—	Nonattainment [a]
	Annual	Nonattainment	Unclassifiable/attainment [b]
CO	1-hour	Attainment	Attainment
	8-hour	Attainment	Attainment
NO_2	1-hour	Attainment	Unclassifiable/Attainment
	Annual	Attainment	Attainment
SO_2	1-hour	Attainment	Attainment/Unclassifiable [c]
	24-hour	Attainment	— [d]
	Annual	—	— [d]

Notes: [a] On January 9, 2013, US EPA issued a final rule to determine that the Bay Area attains the 24-hour PM2.5 national standard (US EPA 2013). This US EPA rule suspends key state implementation plan (SIP) requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this US EPA action, the Bay Area will continue to be designated as "nonattainment" for the national 24-hour PM2.5 standard until such time as the BAAQMD submits a "redesignation request" and a "maintenance plan" to US EPA, and US EPA approves the proposed redesignation.

[b] In December 2012, US EPA strengthened the annual PM 2.5 NAAQS from 15.0 to 12.0 µg/m^3. In December 2014, US EPA issued final area designations for the 2012 primary annual PM 2.5 NAAQS (US EPA 2014). Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

[c] On January 9, 2018, US EPA issued a final rule to establish the initial air quality designations for certain areas in the US for the 2010 SO_2 primary NAAQS (US EPA 2018). This final rule designated the SFBAAB as attainment/unclassifiable for the 2010 SO_2 primary NAAQS.

[d] See note d under **Table 5.3-1**.

Sources: ARB 2019a, BAAQMD 2019a, US EPA 2011c, US EPA 2013, US EPA 2014, US EPA 2018

Existing Ambient Air Quality

The nearest background ambient air quality monitoring station to the project is the San Jose – Jackson Street station, which is about 2.9 miles southeast of the project site. **Table 5.3-3** presents the air quality monitoring data from the San Jose – Jackson Street monitoring station from 2013 to 2018, the most recent years for which data are available. Data in **Table 5.3-3** that are marked in **bold** indicate that the most-stringent current standard was exceeded during that period.

The maximum concentration values listed in **Table 5.3-3** have not been screened to remove values that are designated as extreme events. Violations that are the result of extreme events such as wildfires are normally excluded from consideration as AAQS violations. Extreme events undoubtedly affected many of the maximum concentration values listed for 2017 and 2018, most of which occurred from September to mid-November during a period of extensive California-wide wildfire activity. The ozone[1] and PM in 2017 and 2018 strongly illustrate the effect of events like the extensive northern California wild-land fires. Even though they were 100's of miles from the monitoring stations, the blanket of smoke and adverse air quality affected air monitoring adjacent to the urban setting for the project.

[1] Wildfires also emit substantial amounts of volatile and semi-volatile organic materials and nitrogen oxides that form ozone and organic particulate matter (NOAA 2019).

TABLE 5.3-3 AMBIENT AIR QUALITY MONITORING DATA

Pollutant	Averaging Time	2013	2014	2015	2016	2017	2018
O_3 (ppm)	1-hour	**0.093**	0.089	**0.094**	0.087	**0.121**	0.078
	8-hour	**0.079**	0.066	**0.081**	0.066	**0.098**	0.061
PM10 (µg/m^3)	24-hour	**58.1**	**54.7**	**58**	41	**69.8**	**155.8**
	Annual	**22.2**	20	**21.9**	18.3	**21.3**	**23.1**
PM2.5 (µg/m^3)	24-hour (98th percentile)	35	28	32	20	**41**	**133.9**
	Annual	**12.4**	9.3	10.6	8.4	10.1	**12.9**
NO_2 (ppb)	1-hour (maximum)	59	58	49	51	68	86
	1-hour (98th percentile)	52	55	44	42	50	59
	Annual	15.18	13.07	12.81	11.26	12.24	12
CO (ppm)	1-hour	3	2.4	2.4	1.9	2.1	2.5
	8-hour	2.5	1.9	1.8	1.4	1.8	2.1
SO_2 (ppb)	1-hour (maximum)	2.5	3	3.1	1.8	3.6	6.9
	1-hour (99th percentile)	2	2	2	2	3	na
	24-hour	1.4	0.9	1.1	0.8	1.1	1.1

Notes: Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
na – Not available.
Sources: ARB 2019b, US EPA 2019, BAAQMD 2019c

Health Effects of Criteria Pollutants

Below are descriptions of the health effects of criteria pollutants that are a concern in the regional study area. The California Health and Safety Code Section 39606 requires the Air Resources Board to adopt ambient air quality standards at levels that adequately protect the health of the public, including infants and children, with an adequate margin of safety. Ambient air quality standards are the legal definition of clean air (ARB 2007).

Ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NOx), including nitrogen dioxide (NO_2). ROG and NOx are known as precursor compounds for O_3. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately 3 hours.

Ozone can cause the muscles in the airways to constrict, trapping air in the alveoli, potentially leading to wheezing and shortness of breath (US EPA, 2019). Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema, and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease (US EPA, 2019). Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development, and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung

development in children (US EPA, 2019). Inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms, and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath (ARB, 2016a).

People most at risk for adverse health effects from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers (US EPA, 2019). Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure (US EPA, 2019). Studies show that children are no more or less likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults (ARB, 2016a). Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults and are less likely than adults to notice their own symptoms and avoid harmful exposures.

Particulate Matter. PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility.

Nitrogen Dioxide. Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods (as represented by the 1-hour standards) can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 (as represented by the annual standards) may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2. NOx (NO_2 and NO – nitric oxide) reacts with other chemicals in air and sunlight to form both particulate matter and ozone.

Carbon Monoxide. CO is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Sulfur Dioxide. SO_2 is produced through combustion of sulfur or sulfur-containing fuels such as coal. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter (PM10 and PM2.5) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline. The phase-out of leaded gasoline has resulted in decreasing levels of atmospheric lead.

Toxic Air Contaminants[2]

According to section 39655 of the California Health and Safety Code, a toxic air contaminant (TAC) is "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health". TACs, also referred to as hazardous air pollutants (HAPs) or air toxics, are different from criteria air pollutants such as ground-level ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. Criteria air pollutants are regulated using national and state Ambient Air Quality Standards as noted above. However, there are no ambient standards for most TACs[3] so site-specific health risk assessments (HRAs) are conducted to evaluate whether risks of exposure to TACs create an adverse impact. Specific TACs have known acute, chronic, and cancer health impacts. TACs that have been identified by CARB are listed at Title 17, California Code of Regulations, sections 93000 and 93001. The nearly 200 regulated TACs include asbestos, organic, and inorganic chemical compounds and compound categories, diesel exhaust, and certain metals. The requirements of the Air Toxic "Hot Spots" Information and Assessment Act apply to facilities that emit these listed TACs above regulated threshold quantities.

Health Effects of TACs

The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs could cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term effects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches (BAAQMD 2017b, Section 5.1). Numerous other health effects also have been linked to exposure to TACs, including heart disease, Sudden Infant Death Syndrome, respiratory infections in children, lung cancer, and breast cancer (OEHHA 2015).

The primary on-site TAC emissions sources for the SBGF are diesel engines, both during construction and readiness testing and maintenance. Diesel exhaust is a complex mixture of thousands of gases and fine particles and contains over 40 substances listed by the US EPA as hazardous air pollutants and by ARB as toxic air contaminants. The solid material in diesel exhaust is known as DPM (ARB 2019c). DPM is primarily composed of aggregates of spherical carbon particles coated with organic and inorganic substances. Diesel exhaust deserves particular attention mainly because of its ability to induce serious noncancerous effects and its status as a likely human carcinogen. Diesel exhaust is also characterized by ARB as "particulate matter from diesel-fueled engines". The impacts from human exposure would include both short- and long-term health effects. Short-term effects can include increased coughing, labored breathing, chest tightness, wheezing, and eye and nasal irritation. Effects from long-term exposure can include increased coughing, chronic bronchitis, reductions in lung function, and inflammation of the lung. Epidemiological studies strongly suggest a causal relationship exists between occupational diesel exhaust exposure and lung cancer. Diesel exhaust is listed by the US EPA as "likely to be carcinogenic to humans" (US EPA 2003).

Sensitive Receptors

Sensitive receptors are defined as groups of individuals that may be more susceptible to health risks due to chemical exposure. Sensitive individuals, such as infants, the aged, and people with specific illnesses or

[2] According to section 39655 of the California Health and Safety Code, a toxic air contaminant (TAC) is "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." In addition, substances which have been listed as federal hazardous air pollutants (HAPs) pursuant to section 7412 of Title 42 of the United States Code are TACs under the state's air toxics program pursuant to section 39657 (b) of the California Health and Safety Code. The Air Resources Board formally made this identification on April 8, 1993 (Title 17, California Code of Regulations, section 93001) (OEHHA 2019).

[3] Ambient air quality standards for TACs exist for lead (federal and state standards), hydrogen sulfide (state standard), and vinyl chloride (state standard).

diseases, are the subpopulations which are more sensitive to the effects of toxic substance exposure. Examples of sensitive receptors include residences, schools and school yards, parks and playgrounds, daycare centers, nursing homes, and medical facilities. Residences could include houses, apartments, and senior living complexes. Medical facilities could include hospitals, convalescent homes, and health clinics. Playgrounds could be play areas associated with parks or community centers (BAAQMD 2017b). The potential sensitive receptor locations evaluated in the HRA for SBGF include (Sequoia 2019a, page 4.3-22, BAAQMD 2012):

- Residential dwellings, including apartments, houses, condominiums
- Schools, colleges, and universities
- Daycares
- Hospitals
- Senior-care facilities

Sensitive Receptors Near the Project

BAAQMD recommends that any proposed project that includes the siting of a new TAC emissions source assess associated community risks and hazards impacts within 1,000 feet of the proposed project, and take into account both individual and nearby cumulative sources (that is, proposed project plus existing and foreseeable future projects). Cumulative sources represent the combined total risk values of each individual source within the 1,000 foot evaluation zone (BAAQMD 2017b).

A sensitive receptor search was conducted by the applicant within a 1-mile zone of influence, which is broader than the 1,000-foot (0.19 mile) distance recommended by BAAQMD. In addition to residents, it was determined that nearby sensitive receptors include daycares and an indoor soccer field. The area directly surrounding the SBGF site consists of various businesses, industrial uses, railroad tracks, and the San Jose International Airport (SJC). The applicant stated that the nearest residential neighborhoods are located approximately one third mile north and east of the site (Sequoia 2019a, page 4.3-22). Staff drove around the project site, and found that additional nearby residences are located to the southwest of the site at a distance of approximately 1,725 ft. (0.33 miles). These additional residences are located more often downwind of the project site than the residences identified by the applicant. No schools, residences, parks, playgrounds, day care centers, nursing homes, or hospitals were found to be located within 1,000 ft. of the SBGF. Please see **Figure 5.3-1** for the map of sensitive receptors near the project. Staff visited Heartland Hospice Services and determined that this was a business office and that patient care was not conducted at this site.

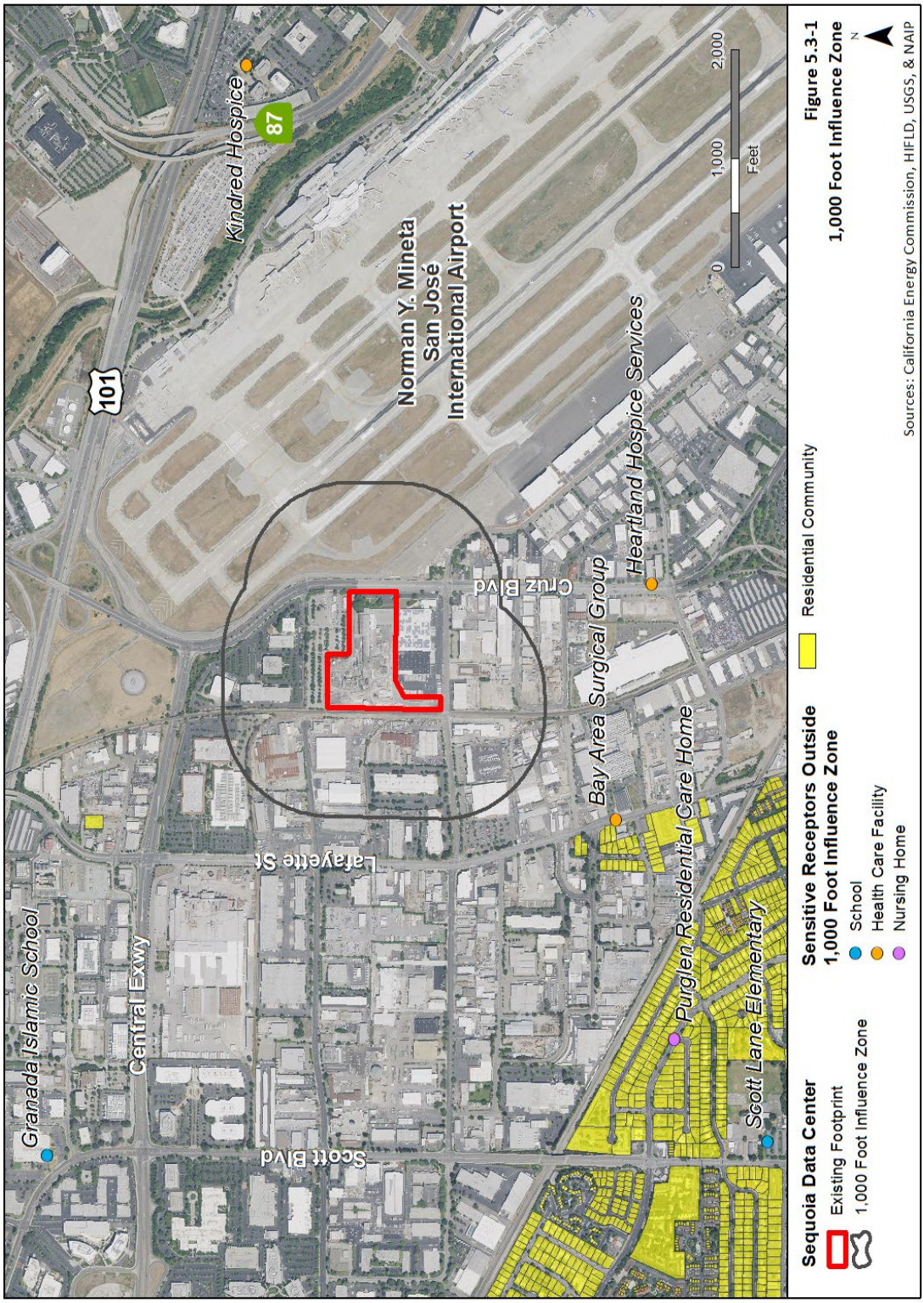

Figure 5.3-1
1,000 Foot Influence Zone

Regulatory Background

Federal, state, and regional agencies regulate air quality in the SFBAAB, within which the project site is located.

Federal

Clean Air Act. The federal Clean Air Act (CAA) establishes the statutory framework for regulation of air quality in the United States. Under the CAA, the US EPA oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources.

Title I (Air Pollution Prevention and Control) of the federal CAA requires establishment of NAAQS, air quality designations, and plan requirements for nonattainment areas. States are required to submit a state implementation plan (SIP) to the US EPA for areas in nonattainment with NAAQS. The SIP, which is reviewed and approved by the US EPA, must demonstrate how state and local regulatory agencies will institute rules, regulations, and/or other programs to attain NAAQS.

CAA section 112 (Title 42, U.S. Code section 7412) addresses emissions of hazardous air pollutants (HAPs). This section requires new sources that emit more than ten tons per year (tpy) of any specified HAP or more than 25 tpy of any combination of HAPs to apply Maximum Achievable Control Technology (MACT).

National Emission Standards for Hazardous Air Pollutants. The CAA defines HAPs as a variety of substances that pose serious health risks. Direct exposure to HAPs has been shown to cause cancer, reproductive effects or birth defects, damage to brain and nervous system, and respiratory disorders. Categories of sources that cause HAP emissions are controlled through separate standards under CAA Section 112: National Emission Standards for Hazardous Air Pollutants (NESHAP). These standards are specifically designed to reduce the potency, persistence, or potential bioaccumulation of HAPs. New sources that emit more than ten (10) tpy of any specified HAP or more than 25 tpy of any combination of HAPs are required to apply Maximum Achievable Control Technology (MACT).

Asbestos is a HAP regulated under the US EPA NESHAP. The asbestos NESHAP is intended to provide protection from the release of asbestos fibers during activities involving the handling of asbestos. Air toxics regulations under the CAA specify work practices for asbestos to be followed during operations of demolitions and renovations. The regulations require a thorough inspection of the area where the demolition or renovation operations would occur and advance notification of the appropriate delegated entity. Work practice standards that control asbestos emissions must be implemented, such as removing, wetting, and sealing in leak-tight containers all asbestos-containing materials (ACM) and disposing of the waste as expediently as practicable.

State

The Air Resources Board (ARB) is the primary administrator of the California's federal CAA compliance efforts, while local air quality districts administer air rules and regulations at the local and regional levels. ARB is also responsible for California's state regulated air quality management, including establishment of CAAQS for criteria air pollutants, mobile source/off-road equipment/portable equipment emission standards, portable equipment registration, greenhouse gas (GHG) regulations, as well as oversight of local or regional air quality districts and preparation of implementation plans, including regulations for stationary sources of air pollution.

Air Toxic "Hot Spots" Information and Assessment Act. The Air Toxic "Hot Spots" Information and Assessment Act, also known as Assembly Bill (AB) 2588, identifies TAC hot spots where emissions from specific stationary sources may expose individuals to an elevated risk of adverse health effects, particularly cancer or reproductive harm. Many TACs are also classified as HAPs. AB 2588 requires that a business or other establishment identified as a significant stationary source of toxic emissions provide the affected population with information about health risks posed by their emissions.

Airborne Toxic Control Measure (ATCM) for Emergency Standby Diesel-Fueled Engines. Statewide regulations govern the use of and establishes emissions performance standards for emergency standby diesel-fueled engines, including those of the project. As defined by the California Code of Regulations (17 CCR §93115.4), an emergency standby engine is one that provides electrical power during an emergency use and is not the source of primary power at the facility; an emergency standby engine is not operated to supply power to the electric grid. The ATCM (17 CCR §93115.6) restricts each emergency standby engine to operate no more than 50 hours per year for maintenance and testing purposes. The ATCM establishes no limit on engine operation for emergency use or for emission testing to show compliance with the ATCM's standards.

Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. ARB has established the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations to minimize the generation of asbestos from earth disturbance or construction activities. The Asbestos ATCM applies to any project that would include sites to be disturbed in a geographic ultramafic rock unit area or an area where naturally occurring asbestos (NOA), serpentine, or ultramafic rocks are determined to be present. Based upon review of the US Geological Survey map detailing natural occurrence of asbestos in California, NOA is not expected to be present at the project site (CDOC 2011).

Regional

The BAAQMD is the regional agency charged with preparing, adopting, and implementing emission control measures and standards for stationary sources of air pollution pursuant to delegated state and federal authority, for all projects located within their jurisdiction. Under the California CAA, the BAAQMD is required to develop an air quality plan to achieve and/or maintain compliance with federal and state nonattainment criteria pollutants within the air district's boundary.

Bay Area 2017 Clean Air Plan. BAAQMD adopted the Bay Area 2017 Clean Air Plan (CAP) on April 19, 2017 (BAAQMD 2017a). The 2017 CAP provides a regional strategy to protect public health and protect the climate. The 2017 CAP updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, pursuant to air quality planning requirements defined in the California Health & Safety Code. The 2017 CAP defines an integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone and key ozone precursors, and greenhouse gases.

BAAQMD California Environmental Quality Act Guidelines. BAAQMD publishes California Environmental Quality Act (CEQA) guidelines to assist lead agencies in evaluating a project's potential impacts on air quality. The BAAQMD published the most recent version of its CEQA Guidelines in May 2017 (BAAQMD 2017b).

BAAQMD Regulation 2, Rule 2: New Source Review. This rule applies to all new or modified sources requiring an Authority to Construct and/or Permit to Operate. It requires the applicant to use the Best Available Control Technology (BACT) to control emissions if the source will have the potential to emit a

BAAQMD BACT pollutant in an amount of 10 or more pounds per day (lbs/day). Note that pollutant calculations only include those emissions from readiness testing and maintenance, as emissions from emergency operations are exempt from district permitting. Offsets are required at a 1:1 ratio if more than 10 tpy of nitrogen oxides (NO_X) or Precursor Organic Compounds (POC), or more than 100 tpy of PM2.5, PM10, or SO_2, are emitted. If the potential to emit for NOx or POC is 35 tons per year or more the offset ratio increases to 1.15:1 and offsets can no longer be obtained through the Small Facility Banking Account.

On June 3, 2019, the BAAQMD staff issued a new policy to protect the Small Facility Banking Account from over withdrawal by new emergency backup power generator sources. The policy provides procedures for calculating a facility's potential to emit (PTE) to determine eligibility for emission reduction credits (ERCs) from the Small Facility Banking Account for emergency backup power generators (BAAQMD 2019b, added to BAAQMD website on June 12, 2019). When determining the PTE for a facility with emergency backup power generators, the district shall include emissions resulting from emergency operation of 100 hours per year per standby generator, in addition to the permitted limits for readiness testing and maintenance (generally 50 hours/year or less per standby or backup engine). However, after comparing the PTE calculated to determine the account eligibility threshold, the applicant would only be required to use permitted emissions from readiness testing and maintenance and not the emissions from emergency operation to calculate the project PTE that would be offset from the regular district banking and offset procedures.

Emissions offsets represent ongoing emission reductions that continue every year, year after year, in perpetuity. BAAQMD uses offsets to counterbalance regular and predictable emissions, not emissions that would only occur infrequently when emergency conditions arise. The BAAQMD will not allow an owner/operator to accept a permit condition to limit emergency operation to less than 100 hours per year to reduce the source's PTE for purposes of qualifying for the Small Facility Banking Account. However, an owner/operator may reduce PTE for ERC mitigation purposes by accepting lower limits on readiness testing and maintenance or by installing an emissions control device (BAAQMD 2019b).

The project as proposed by the applicant, ~~**due to the new BAAQMD policy on PTE calculations,**~~ would ~~**not**~~ qualify for offsets from the BAAQMD's Small Facility Banking Account. ~~**The applicant has confirmed that they plan to purchase ERCs from the market to offset emissions from readiness testing and maintenance.**~~ The applicant's proposal seeks to limit readiness testing and maintenance to 50 hours per year per standby generator[4]. The applicant estimates annual NOx emissions of ~~**35.9**~~**12** tons per **year** ~~**which, after applying a 1.15:1 offset ratio, would require 41.3 tons of NOx ERCs from the District's emissions credit bank**~~ **during readiness testing and maintenance (Sequoia 2021c)**. Final details regarding the amount and the source of the NOx ERCs required for the project to comply with the offset requirements in BAAQMD's Regulation 2, Rule 2, under District policy, would be determined through the permitting process with the BAAQMD.

BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. This rule provides for the review of new and modified sources of TAC emissions to evaluate potential public exposure and health risk. Under this rule, a project would be denied an Authority to Construct if it exceeds any of the specified risk limits, which are consistent with BAAQMD's California Environmental Quality Act (CEQA) significance

[4] The applicant's estimate of the expected readiness testing and maintenance events for each engine, including generation tests (monthly and annual), contingency readiness testing and maintenance totals 10 hours of engine use per year per engine (Sequoia 2019c, Data Response to Data Request 16). The monthly generation tests would require the engines to operate at 10 percent load for 30-minutes. Annual four (4) hour duration readiness testing and maintenance would require the engines to operate at 25 percent load for 45 minutes, 50 percent load for the next 45 minutes, 75% load for the next 45 minutes, and then 100 percent load, for 1 hour and 45 minutes.

thresholds. Best Available Control Technology for Toxics (TBACT) would also be required for any new or modified source of TACs where the source has a cancer risk greater than 1.0 in 1 million or a chronic hazard index (HI) greater than 0.20. The specific toxicity values of each particular TAC, as identified by OEHHA, are listed in Table 2-5-1 of this rule for use in the HRA (BAAQMD 2017d).

BAAQMD Regulation 9, Rule 8: Nitrogen Oxides And Carbon Monoxide From Stationary Internal Combustion Engines. This rule limits NOx and CO emissions from stationary internal combustion engines with an output rated by the manufacturer at more than 50 brake horsepower, including the standby engines of the project. This regulation (Rule 9-8-231) defines emergency use as "the use of an emergency standby or low usage engine during any of the following: "

- In the event of unforeseeable loss of regular natural gas supply;
- In the event of unforeseeable failure of regular electric power supply;
- Mitigation or prevention of an imminent flood;
- Mitigation of or prevention of an imminent overflow of sewage or waste water;
- Fire or prevention of an imminent fire;
- Failure or imminent failure of a primary motor or source of power, but only for such time as needed to repair or replace the primary motor or source of power; or
- Prevention of the imminent release of hazardous material

Significance Criteria

This analysis is based upon the methodologies and related thresholds in the most recent BAAQMD CEQA Guidelines (BAAQMD 2017b). These methodologies include qualitative determinations and determination of whether project construction and readiness testing and maintenance would exceed numeric emissions and health risk thresholds. "A threshold of significance is "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant" (CEQA Guidelines §15064.7). ... While thresholds of significance give rise to a presumption of insignificance, thresholds are not conclusive, … [T]hresholds of significance must be supported by substantial evidence." (BAAQMD 2017b).

BAAQMD project-level thresholds of significance for directly-emitted non-attainment criteria pollutants and non-attainment precursor criteria pollutant emissions and TAC emissions health risks that apply during construction and operation are shown in **Table 5.3-4**. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

For construction period fugitive dust emissions, BAAQMD does not have a significance threshold. Rather, the BAAQMD recommends using a current Best Management Practices (BMPs) approach, which has been a pragmatic and effective approach to the control of fugitive dust emissions.

Significance criteria also include Significant Impact Levels (SILs) for the particulate matter portions of the analysis. SILs from the South Coast Air Quality Management District are used rather than the BAAQMD because BAAQMD does not use such criteria. Regulatory agencies have traditionally applied SILs as a *de minimis* value, which represents the offsite concentration predicted to result from a source's emissions

that does not warrant additional analysis or mitigation. If a source's modeled impact at any offsite location does not exceed the relevant SIL, the source owner would typically not need to assess multi-source or cumulative air quality analysis to determine whether or not that source's emissions would cause or contribute to a violation of the relevant NAAQS or CAAQS.

TABLE 5.3-4 BAAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction	Operation	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NOx	54	54	10
PM10	82 (exhaust)	82	15
PM2.5	54 (exhaust)	54	10
PM10/ PM2.5 (fugitive dust)	Best Management Practices	None	
Risk and Hazards for New Sources and Receptors (Individual Project)	Same as Operation Threshold	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM2.5 increase: > 0.3 µg/m^3 annual average Zone of Influence: 1,000-foot radius from property line of source or receptor	
Risk and Hazards for New Sources and Receptors (Cumulative Threshold)	Same as Operation Threshold	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) PM2.5: > 0.8 µg/m^3 annual average (from all local sources) Zone of Influence: 1,000-foot radius from property line of source or receptor	

Source: BAAQMD 2017b

In addition to the BAAQMD thresholds provided above, staff considers a project's potential to expose sensitive receptors to substantive exposures to all criteria pollutants.[5] The AAQS are health protective values, so staff uses these health-based regulatory standards to help define what is considered a substantive exposure. The BAAQMD thresholds of significance are an important aspect of staff's air quality analysis for SBGF. Therefore, staff's analysis determines whether the project would be likely to exceed any ambient air quality standard or contribute substantially to an existing or projected air quality violation, and if necessary, proposes mitigation to reduce or eliminate these pollutant exceedances or substantial contributions. To determine if the project could contribute to or create a substantial pollutant concentration for the nonattainment pollutant PM10, the US EPA PM10 Significant Impact Levels (SILs) for 24-hour impacts (5 µg/m^3) and for annual impacts (1 µg/m^3) have been used.[6] Additionally, as shown above in **Table 5.3-4**, the BAAQMD significance threshold for a project-level annual ambient PM2.5 increase (0.3 µg/m^3), along with the potential to cause a new exceedance of an AAQS, are both used to determine project significance for PM2.5.

[5] This approach provides a complete analysis that describes the foreseeable effects of the project in relation to all potential air quality related health impacts, including impacts of criteria pollutants to sensitive receptors; and therefore addresses the California Supreme Court December 2018 Sierra Club v. County of Fresno opinion (https://www.courts.ca.gov/opinions/archive/S219783A.PDF).

[6] BAAQMD does not have localized impact significance criteria for PM10, or 24-hour localized impact significance criteria for PM2.5. Comparable significance criteria, for an area with greater levels of particulate pollution, would be the SCAQMD project operation localized significant concentration threshold bases for PM10 (24-hour = 2.5 µg/m^3, and annual = 1.0 µg/m^3) and PM 2.5 (24-hour = 2.5 µg/m^3).

For a health risk evaluation, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Therefore, there are two kinds of thresholds for TACs. Cancer risk is expressed as excess cancer cases per 1 million exposed individuals, typically over a lifetime of exposure. Acute and chronic exposure to non-carcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to acceptable reference exposure levels (REL) for each of the TACs with acute and chronic health effects (BAAQMD 2017b). The significance thresholds for TACs and PM2.5 applied to the licensing or permitting of a new source are listed in **Table 5.3-4** and summarized in the following text (BAAQMD 2017b).

The BAAQMD significance thresholds for a single source of TAC emissions are as follows:

- An excess lifetime cancer risk level of more than 10 in 1 million
- A non-cancer chronic HI greater than 1.0
- A non-cancer acute HI greater than 1.0
- An incremental increase in the annual average PM2.5 concentration of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$)

The BAAQMD significance thresholds for cumulative TAC impacts are also summarized below. A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot distance from the fence line of a source and the contribution from the project, exceeds the following:

- An excess lifetime cancer risk level of more than 100 in 1 million
- A non-cancer chronic HI greater than 10.0
- An annual average PM2.5 concentration of greater than 0.8 $\mu g/m^3$

5.3.2 Environmental Impacts and Mitigation Measures

Applicant Proposed Measures: The applicant proposes to implement the following project design measures (termed Applicant Proposed Measures, or APMs, in this analysis) as part of the project to reduce potential construction and operation impacts related to Air Quality (Sequoia 2019e).[7] **APM AQ-1** applies during construction and **APM AQ-2** applies during operation. The BAAQMD's CEQA Guidelines consider fugitive dust impacts to be less than significant through the application of best management practices (BMPs). To assure fugitive dust impacts are less than significant, the applicant proposes to incorporate the BAAQMD's recommended "basic construction mitigation measures" (aka BMPs), that also include some on-road vehicle/off-road equipment engine emissions reduction measures, as project design features.

APM AQ-1:

- All exposed surfaces (for example, 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 offsite shall be covered.

[7] The BMPs listed in the SPPE Application Project Description do not exactly match those presented in the BAAQMD BMPs verbatim, but generally include the actions listed in the BAAQMD BMPs.

- 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 surfaces shall be limited to 15 miles per hour.
- 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 Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling [Title 13, Section 2485, 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 visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and name of the 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.

APM AQ-2:

- The project owner commits to standard operating procedures that will limit operation for maintenance and testing to one generator at a time. It is project owner's experience that maintenance and testing of each engine rarely exceeds 10 hours annually. [SBGF only]

These project design measures outlined above have been determined by staff to be sufficient, and would reduce Air Quality emissions even further than construction period emissions levels that were analyzed by staff. Energy Commission staff does not recommend any additional Air Quality mitigation measures for construction or operation.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Construction, and Readiness Testing and Maintenance

LESS THAN SIGNIFICANT IMPACT. The project site is within the BAAQMD's jurisdiction, which is the agency primarily responsible for assuring that federal and state ambient air quality standards are met and maintained in the SFBAAB. The BAAQMD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents, and develops regulations that must be consistent with or more stringent than federal and state air quality laws and regulations. The applicable air quality plan (AQP) is the Bay Area 2017 CAP.

A project is considered to be consistent with the AQP if that project (BAAQMD 2017b, page 9-2):

1. Supports the primary goals of the AQP.

   The determination for this criterion, per BAAQMD, can be met through consistency with the District-approved CEQA thresholds of significance. As can be seen in the impact analysis discussions under checklist questions (b) and (c) below, the project would have less than significant impacts related to the District-approved CEQA thresholds. Therefore, the project would have a less than significant impact related to the primary goals of the AQP.

2. Includes applicable control measures from the AQP.

   The project would include the implementation of applicable control measures from the AQP. These project level applicable control measures include Green Buildings (BL1), Urban Heat Island Mitigation (BL4), and Trip Reduction Programs (TR2) through Rule 14-1 compliance.

3. Does not disrupt or hinder implementation of any AQP control measures.

   Examples of disrupting or hindering implementation of an AQP would be proposing excessive parking or precluding the extension of public transit or bike paths. The project design as proposed is not known to hinder the implementation of any AQP control measure.

Therefore, given that the project would not exceed CEQA thresholds of significance, as discussed below under checklist question (b) and ambient air quality standards under checklist question (c), the project would be consistent with the AQP and would have less than significant impacts.

Proposed Mitigation Measures: None.

b. Would the project 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?

This section focuses on whether the project's non-attainment criteria pollutant emissions exceed any of the BAAQMD construction or operation emissions significance thresholds for criteria pollutants. TAC effects are not included because they are not criteria pollutants.

Construction

LESS THAN SIGNIFICANT IMPACT. The City of Santa Clara issued a demolition permit to the project owner on February 7, 2019 and at the time of the filing of this SPPE, demolition activities have been completed except for demolition of the foundations, asphalt, and underground utilities of the former cogeneration facility, which is expected to take approximately 20 days. Construction of the SDC and SBGF is expected to take approximately 18 months (Sequoia 2019a, page 4.3-12). Emissions would occur during the 18-month construction period due to construction equipment, material movement, paving activities, and onsite and offsite vehicle trips, such as material haul trucks, worker commutes, and delivery vehicles.

On December 16, 2019, the applicant filed Data Responses Set 3. The data responses included a detailed description of the recently-added construction activity associated with grading the newly-proposed underground fuel storage basin. The applicant stated, "the fuel tanks will be located in a recessed concrete pit with the top of the tank matching adjacent grade. The top of the tank will be covered by the generator and enclosure integral to the generator system. Each tank will be independent of each other and dedicated to a single generator" (Sequoia 2019f).

The applicant estimated the emissions for the construction period using diesel-fueled equipment emission factors, horsepower, load factors, and paving emission factors from the California Emissions Estimator Model[8] (CalEEMod) User's Guide (CAPCOA 2017); and onsite and offsite vehicle exhaust

[8] CalEEMod was developed by the California Air Pollution Control Officers Association in collaboration with California Air Districts. This model is a construction and emissions estimating computer model that estimates direct criteria pollutant and direct and indirect greenhouse gas

and idling emission factors from EMFAC2014 (the most recent US EPA approved version). The applicant derived the fugitive dust emission factors for truck dumping/loading, grading, construction waste generation, and construction waste loading activities using methodology from the CalEEMod User's Guide (CAPCOA 2017). The applicant derived the fugitive dust emission factors for vehicle travel on paved and unpaved roads using methodology from AP-42 (US EPA 2011a and US EPA 2006, respectively). **Table 5.3-5** shows the applicant estimated criteria pollutant emissions during the project's construction period.

The average daily construction emissions shown in **Table 5.3-5** are based on the total project emissions averaged over the entire construction duration. Excluding fugitive dusts, these average daily construction emissions are compared to the BAAQMD's significance thresholds for construction-related average daily emissions. For fugitive dust, construction emissions are not considered significant if the project uses BMPs. The BAAQMD's significance thresholds for PM10 and PM2.5 emissions apply to exhaust emissions only. However, the applicant conservatively included both exhaust and fugitive dust emissions to compare with the BAAQMD's significance thresholds for PM10 and PM2.5 exhaust emissions.

TABLE 5.3-5 CRITERIA POLLUTANT EMISSIONS FROM PROJECT CONSTRUCTION

Pollutant	Average Daily Emissions (lbs/day) [a]	Maximum Project Emissions (tons)	BAAQMD Significance Thresholds for Construction-related Average Daily Emissions (lbs/day)	Threshold Exceeded?
ROG	16.3	4.3	54	No
CO	18.8	5.3	None	N/A
NOx	23.8	6.3	54	No
SOx	0.06	0.015	None	N/A
PM10 [b]	3.4	0.23	82	No
PM2.5 [b]	1.7	0.22	54	No

Notes:
[a] The BAAQMD's thresholds are average daily thresholds. Accordingly, the results reported are the total project emissions averaged over the entire construction duration of 559 days. See **Table 5.3-4** for BAAQMD significance thresholds.
[b] The PM emissions estimates conservatively include both exhaust and fugitive dust emissions, even though the BAAQMD's thresholds are specific to exhaust emissions only. Fugitive emissions are from Data Responses Set 1, Data Response 9.
Source: Sequoia 2019a, Sequoia 2019c, Sequoia 2019f.

Table 5.3-5 shows that the average daily construction emissions would be lower than the thresholds of significance from the BAAQMD May 2017 CEQA Guidelines. There is no numerical threshold for fugitive dust generated during construction in BAAQMD. BAAQMD considers fugitive dust emissions to be significant without BMPs. Consequently, dust emissions generated by project construction activities would be potentially significant. The BAAQMD May 2017 CEQA Guidelines require control of fugitive dust through BMPs in order to conclude that impacts from fugitive dust emissions are less than significant. As mentioned under **Applicant Proposed Measures** in the beginning of **Section 5.3.2**, the applicant proposes to incorporate the BAAQMD's recommended construction BMPs as a project design feature. The project would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant with the implementation of the **APM AQ-1** during construction.

emissions for a variety of land use projects. The model calculates maximum daily and annual emissions. The model also identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures.

Readiness Testing and Maintenance

LESS THAN SIGNIFICANT IMPACT. Emissions would occur during readiness testing and maintenance as a result of diesel fuel combustion from the SBGF's standby diesel generator engines, offsite vehicle trips for worker commutes and material deliveries, and facility upkeep, such as architectural coatings, consumer product use, landscaping, water use, waste generation, natural gas use for comfort heating, and electricity use (Sequoia 2019a, page 4.3-14). Each of these types of emission sources is described in more detail below.

Stationary Sources. The project would include fifty-four (54) standby diesel fueled engine generators (standby generators) with a nominal output of 3,017 horsepower at full load for a maximum generating capacity of 2.25 megawatts (MW) and a continuous steady-state, output capacity of 1.91 MW.[9] These generators would be made by MTU[10] Friedrichshafen. They would comply with US EPA Tier ~~2~~**4** emission standards ~~**and include**~~ **equipped with the** ~~**a Johnson Matthey CRT® Miratech**~~ **system which includes both selective catalytic reduction (SCR) system and** Diesel Particulate Filter (DPF) System**. The DPF system** ~~**that**~~ controls engine exhaust particulate matter by at least 85 percent. **When operational, the SCR system would reduce NOx emissions by 90 percent.** All standby generators would be tested routinely for readiness to ensure they would function during an emergency. During readiness testing and maintenance, criteria pollutants and TACs would be emitted directly from the engines. In Data Responses Set 1, the applicant stated multiple generator engines would not run simultaneously during monthly or annual readiness testing and maintenance events (Sequoia 2019c). Subsequently, the applicant docketed Project Design Measures stipulating that operation for readiness testing and maintenance be limited to one generator at a time (**APM AQ-2**) (Sequoia 2019e). The applicant has estimated the total hours of readiness testing and maintenance would be around ten hours annually, but they are pursuing a permit for up to 50 hours per year. Each standby generator would be tested four hours once per year, and 30-minutes once per month (Sequoia 2019c). Emissions that could occur in the event of an outage that triggers emergency operations would not occur on a regular or predictable basis and are not included in the determination of whether the project would result in a cumulatively considerable net increase of criteria air pollutants, but are analyzed qualitatively further below (BAAQMD 2019b).

Mobile Sources. Approximately 25 employees and 24-hour on-site security personnel would be at the project site on a daily basis. There would be an average of 695 total daily vehicle trips, including vendor and employee trips, which would result in mobile source criteria pollutant emissions. The applicant estimated these emissions using vehicle exhaust and idling emission factors from CalEEMOD.

Area and Energy Sources. The project would result in area and energy source criteria pollutant emissions associated with facility upkeep (that is, readiness testing and maintenance). Area sources include landscaping activities, consumer product use, and periodic painting emissions. Energy sources include natural gas combustion for space heating, from sources assumed exempt from BAAQMD

[9] Steady state continuous generating capacity is 85 percent of the peak generating capacity. (Sequoia 2019a, section 1.2.1, page 1-4 and Sequoia 2019b, Appendix C).

[10] "Motor (Engine) and Turbine Union", MTU Friedrichshafen remained a subsidiary of DaimlerChrysler until 2006 when it was sold off to the EQT IV private equity fund, becoming a part of the Tognum Corporation. Rolls-Royce Holdings and Daimler AG acquired Tognum in 2011. In 2014, Tognum was renamed Rolls-Royce Power Systems, having become a 100 per cent subsidiary of Rolls-Royce Holdings (Google, for MTU engines, 10/1/19).

permitting.[11] The applicant estimated the facility upkeep emissions using the CalEEMod (version 2016.3.2), based on the square footage of the buildings to be constructed and paved areas.

Table 5.3-6 provides the annual criteria pollutant emission estimates for project readiness testing and maintenance using the emissions source assumptions noted above. **Table 5.3-6** shows that with NOx emissions from the readiness testing and maintenance of the standby generators fully offset through the permitting process with the BAAQMD, the project would not exceed any of the BAAQMD emissions significance thresholds. The BAAQMD CEQA Guidelines state that if the project's daily average or annual emissions of operational-related criteria air pollutants or precursors do not exceed any applicable Threshold of Significance listed in **Table 5.3-4**, the proposed project would not result in a cumulatively significant impact (BAAQMD 2017b). The BAAQMD significance thresholds for daily emissions are daily average values that scale to equal the annual thresholds. Therefore, a separate comparison of the project's average daily emissions versus the BAAQMD average daily significance thresholds is unnecessary.

TABLE 5.3-6 ANNUAL CRITERIA POLLUTANT EMISSIONS FROM PROJECT TESTING AND MAINTENANCE

	Annual Emissions (tpy)					
Source Type	**ROG**	**CO**	**NOx**	**SO_2**	**PM10**	**PM2.5**
Mobile Sources	0.14	1.8	0.63	0.003	0.58	0.16
Facility Upkeep (Area and Energy Sources)	3.2	0.76	0.9	0.01	0.07	0.07
Standby Generators (Testing Only)	0.54	6.4	~~35.96~~12	0.03	0.16	0.16
Proposed Offsets at ~~1:15 to 1~~1:1	--	--	(~~-41.35~~-12)	--	--	--
Net Project Emissions	3.9	8.9	~~-5.39~~1.53	0.04	0.81	0.39
BAAQMD Annual Significance Thresholds	10	--	10	--	15	10
Mitigated Emissions Exceed BAAQMD Threshold? (Y/N)	No	N/A	No	N/A	No	No

Sources: Sequoia 2019b**, Sequoia 2021c**

Table 5.3-6 shows that the project would not be expected to result in a cumulatively considerable net increase of criteria pollutants during the lifetime of the project, including readiness testing and maintenance of the standby generators. The ~~**project**~~ **district** would provide offsets **from the Small Facility Banking Account** for the NOx emissions that are generated during the assumed 50 hours of readiness testing and maintenance ~~**to be requested**~~ during the BAAQMD permitting process. ~~**Per District policy and at the BAAQMD's Regulation 2, Rule 2 offset ratio of 1.15 to 1, the project must provide 41.3 tpy of NOx offsets.**~~ The NOx emissions of the emergency generators during readiness testing and maintenance would be fully offset through the permitting process with the BAAQMD. Therefore, the SBGF readiness testing and maintenance would not result in a cumulatively considerable net increase of any criteria pollutant, and these impacts would be less than significant.

Required Mitigation Measures: None.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

This impact analysis considers the potential for exposure to substantial pollutant concentrations for both criteria pollutants, in Air Quality Impact Analyses (AQIA), and toxic air contaminants, in Health

[11] Note that CalEEMod does not calculate criteria pollutant emissions associated with electricity consumption, because that is considered an indirect source of emissions that occurs at an unknown location. Accordingly, the energy source criteria pollutant emissions only include emissions from the estimated amount of on-site natural gas combustion necessary for comfort heating (air and water). Similarly, criteria pollutant emissions associated with waste generation and water use would be tied to electricity consumption and are not included in this analysis.

Risk Assessments (HRA). This section discusses criteria pollutant impacts from construction and readiness testing and maintenance. Then the section discusses health risk assessments for these two topics. Finally, the section discusses issues associated with potential emergency operations.

Criteria Pollutant Air Quality Impact Analysis

Staff considers new AAQS exceedances and substantial contributions to any existing AAQS exceedance caused by project emissions to be substantial evidence of potentially significant impacts that would require the evaluation of potential mitigation measures.

Construction Air Quality Impact Assessment (AQIA)

LESS THAN SIGNIFICANT IMPACT. As shown in **Table 5.3-5** under checklist question (b) above, the exhaust emissions during construction of the project would not exceed significance thresholds for construction activities established in the BAAQMD CEQA Guidelines. There is no numerical threshold for fugitive dust generated during construction in the BAAQMD Guidelines. Instead, the guidance calls for use of BMPs to reduce fugitive dust emissions to consider impacts from fugitive dust emissions less than significant. Without these BMPs, the impact from fugitive dust emissions would be considered significant. The applicant stated it would incorporate measures into the project design that are consistent with the BAAQMD recommended BMPs to reduce fugitive dust emissions. The applicant-proposed measures would avoid the potential for generating substantial pollutant concentrations due to fugitive dust. With these measures in place, impacts of criteria pollutant emissions during the construction period would be less than significant.

In response to staff data requests, the applicant provided the modeled ambient air quality concentrations caused by the construction emissions (Sequoia 2019f). The applicant found the maximum combustion-related concentrations to be approximately 0.058 µg/m^3 for the annual-average PM2.5 impact. These modeled results are shown in **Table 5.3-7**.

TABLE 5.3-7 SEQUOIA MAXIMUM IMPACTS DURING CONSTRUCTION (µg/m^3)

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24-hour	0.49	**69.8**	**70.3**	**50**	**141%**
	Annual	0.06	**21.9**	**22.0**	**20**	**110%**
PM2.5	24-hour	0.31	31.0	31.3	35	89%
	Annual	0.06	10.6	10.7	12	89%
CO	1-hour	51	2,748	2,799	23,000	12%
	8-hour	23	2,061	2,084	10,000	21%
NO_2	State 1-hour	114	128	242	339	71%
	Federal 1-hour	---	---	171	188	91%
	Annual	---	---	28	57	49%
SO_2	State 1-hour	0.267	9.4	9.7	655	1%
	Federal 1-hour	0.254	6.1	6.4	196	3%
	24-hour	0.051	2.9	3.0	105	3%

Notes:
Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
The federal 24-hour PM2.5 background of 31.0 µg/m^3 is based on 98th percentile averaged over 3 years of recent data (2015-2017) excluding 2018.
Source: Response to Data Request 111 (Sequoia 2019f).

The results provided in **Table 5.3-7** are the maximum impacts determined at any point at the project fence line or beyond. The maximum impacts for sensitive receptors would be lower than these maximum values. **Table 5.3-7** shows the maximum modeled impacts during the construction period, and the impacts of criteria pollutant emissions during the construction period would be less than significant.

Readiness Testing and Maintenance AQIA

LESS THAN SIGNIFICANT IMPACT. The applicant provided an ambient air quality impact analysis to compare worst-case ground-level impacts resulting from the project's readiness testing and maintenance with established state and federal ambient air quality standards. The applicant used the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD [Version 18081]) with regulatory default options, as recommended in US EPA's *Guideline on Air Quality Models* (US EPA 2017).

The applicant's modeling analysis, described in more detail below, included the standby generator engines emissions source, but did not include other on-site emissions sources, such as natural gas combustion emissions for space heating. The applicant's modeling analysis included an impacts analysis for readiness testing and maintenance.

Meteorological Data. The applicant used a 5-year (2013-2017) record of hourly meteorological data by the BAAQMD (Sequoia 2019f). The meteorological data were collected at the San Jose International Airport surface station, which is located approximately 3 km (1.9 miles) from the eastern edge of the proposed site and best represents atmospheric conditions at the site. The concurrent daily upper air sounding data from the Oakland International Airport station were also included. The BAAQMD preprocessed the data with AERMET (Version 18081) for direct use in AERMOD (Sequoia 2019f).

Refined Analysis for 1-Hour NO_2 standards. For comparison to the 1-hour NO_2 NAAQS and CAAQS, the applicant's modeling followed a third-tier approach using the Plume Molar Volume Molar Ratio Method (PVMRM), as described in US EPA's *Guideline on Air Quality Models* (US EPA 2017). For the applicant's PVMRM modeling analysis, the applicant selected an in-stack NO_2/NOx ratio (ISR) of 0.1, which is a typical ratio for diesel-fired internal combustion engines.

The applicant's use of PVMRM uses historic monitored ozone data for every hour of the 5-year record (2013-2017) as one set of inputs and the seasonal hourly (SEASHR) background data for NO_2 to add together to predict the total NO_2 impacts. For seasonal NO_2 trends, the applicant used NO_2 data from the monitoring station at 158 Jackson Street in San Jose, California from the 5-year period of January 2013 to December 2017. The applicant computed the 5-year average of third-highest value for the season and hour-of-day entry to arrive at 24 hourly background NO_2 values for each season (Sequoia 2019b).

The applicant's presentation of 1-hour NO_2 CAAQS results (Sequoia 2019f, Table DR 118) does not include the background NO_2 concentrations and only presents the project's incremental daily maximum 1-hour concentrations from AERMOD averaged over five years. To properly compute NO_2 impacts, staff conducted an additional refined analysis using the AERMOD control setting of "POLLUTID NO2 H1H" to arrive at the single highest 1-hour NO_2 result with background to obtain the correct result for comparison against the CAAQS.

In response to ARB's comment (ARB 2020) regarding the temporal pairing of the project's NO_2 impacts with the NO_2 background concentrations, staff performed supplemental modeling analysis for the 1-hour NO_2 CAAQS assessment for testing and maintenance. Staff updated the NO_2 background data using the maximum seasonal hour-of-day values for the most recent three years available (December 2016 to November 2019) to replace the five-year average third-highest values for the season and hour-of-day. Along with newer NO_2 data, staff's supplemental modeling analysis used a newer 5-year record of meteorological and ozone data from 2015 to 2019 per ARB's request and intervenor Sarvey's request to update the modeling with more recent data. The 2018-2019 meteorological data was provided by the BAAQMD informally for staff to complete the supplemental modeling analysis. As of February 2021, the 2013-2017 meteorological data is still the most current data for modeling purposes formally approved by BAAQMD.

The supplemental 1-hour NO_2 modeling analysis was provided as an attachment to staff's January 2021 status report (CEC 2021a). As explained in the supplemental analysis, the worst-case total 1-hour NO_2 impact from staff's supplemental modeling analysis is lower than the worst-case total 1-hour NO_2 impact presented in Table 5.3-8 in this analysis and lower than the 1-hour NO_2 CAAQS. Therefore, staff conservatively estimated the 1-hour NO_2 CAAQS impacts of the project during testing and maintenance in this analysis.

The Tier 4 engines would use an SCR system to reduce NOx emissions. Once the engines meet the appropriate operating temperature, urea can be injected into the system and the NOx emission reductions can be achieved. This is dependent on engine load and duration of engine operation. During most readiness and maintenance tests, the engines would not run long enough, at high enough loads, for the SCRs to become functional.

The modeling results shown in Table 5.3-8 and in staff's supplemental 1-hour NO_2 analysis assume a full hour of engine operation without a functional SCR. However, it is expected that depending on engine load, the SCR system could effectively start reducing emissions 15 to 30 minutes after the engine has begun operation (Sequoia 2021c). Therefore, the modeled impacts presented in Table 5.3-8 are conservative and actual impacts would be lower.

For both 1-hour NO_2 NAAQS and CAAQS analyses, the applicant assumed only one generator would operate at a time for testing and maintenance purposes.

Modeling Assumptions for Readiness Testing Maintenance

The Project Description indicates that the 54 standby engine generator sets would be installed along two sides of the facility with the generators on the western side of the facility having a stack height of 11.81 meters above ground and the generators along the southern side of the facility having a stack height of 7.54 meters above ground (Sequoia 2019b). None of the engine exhaust stacks would have horizontal releases or rain caps (Sequoia 2019c).

All the proposed engines were modeled in a screening analysis for loads from 25% to 100% load, with a source group for each individual engine (only one engine would be tested at any one time). This means that the worst-case impact during readiness testing and maintenance would be due to a single generator in use because only a single generator would operate at a given time for readiness testing (Sequoia 2019b).

The modeling results shown in this analysis are based on the information provided in the original SPPE application (Sequoia 2019a and Sequoia 2019b). There would be slight change in dimensions of the generator enclosures with the change from Tier 2 to Tier 4 emission controls (Sequoia 2021a). Staff considered the slight dimension change by modeling the building downwash effects to see if this would change the worst-case modeling impacts. The change in dimensions of the generator enclosures would not affect the building downwash effects for 50 generators and would only result in negligible changes to four of the generators. Additional modeling showed that the conclusions regarding the project impacts would not change due to the change in the dimensions of the generator enclosures.

Table 5.3-8 shows that the impacts from the standby generator engine testing during readiness testing and maintenance would not cause exceedances of the PM2.5, CO, NO_2, or SO_2 standards. **Table 5.3-8** also shows that the existing 24-hour and annual PM10 background concentrations are already above the CAAQS. The project could therefore contribute to existing exceedances of the 24-hour and annual PM10 CAAQS. However, the modeled PM10 and PM2.5 concentrations from project engine testing are below the PM10 SILs of 5 µg/m^3 for 24-hour impacts and 1 µg/m^3 for annual impacts, and the BAAQMD threshold for annual-average PM2.5 of 0.3 ug/m^3, for risk and hazards. Therefore, SBGF would not significantly impact existing exceedances of PM10 or PM2.5 CAAQS.

TABLE 5.3-8 SEQUOIA MAXIMUM IMPACTS DURING READINESS TESTING AND MAINTENANCE-TESTING ONLY (µg/m^3)

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24-hour	0.76	**69.8**	**70.6**	**50**	**141%**
	Annual	0.05	**21.9**	**22.0**	**20**	**110%**
PM2.5	24-hour	0.58	31.0	31.6	35	90%
	Annual	0.05	10.6	10.7	12	89%
CO	1-hour	3,053	2,748	5,801	23,000	25%
	8-hour	1,967	2,061	4,028	10,000	40%
NO_2	State 1-hour [a]	---	---	333	339	98%
	Federal 1-hour [b]	---	---	187	188	99%
	Annual	13.2	24.1	37.3	57	65%
SO_2	State 1-hour	0.21	9.4	9.6	655	1%
	Federal 1-hour	0.19	6.1	6.3	196	3%
	24-hour	0.08	2.9	3.0	105	3%

Notes:
Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
Results are the worst-case impact of a single generator in use because only a single generator would operate at a given time for testing and maintenance.
The federal 24-hour PM2.5 background of 31.0 µg/m^3 is based on 98th percentile averaged over 3 years of recent data (2015-2017) excluding 2018.
[a] For CAAQS 1-hour NO_2 impacts, this is the project impact and seasonal hour of day background for source "C1SWEG01" at a 75% load; staff reports the highest 1-hour NO_2 modeled result (on 5/12/2017).
[b] For NAAQS 1-hour NO_2 impacts, this is the project impact and seasonal hour of day background for source "C1WEG019" at a 100% load; applicant reports the maximum 8th-highest daily 1-hour result as averaged over five years to relate to the yearly 98th percentile (Sequoia 2019c).
Source: Staff analysis for CAAQS 1-hour NO_2; Response to Data Request 27 (Sequoia 2019c)

The results provided in **Table 5.3-8** are the maximum impacts determined at any point at the project fence line or beyond. The maximum impacts for sensitive receptors would be lower than these

maximum values. The criteria pollutant concentrations in **Table 5.3-8** show that impacts during readiness testing and maintenance would be less than significant.

Localized CO Impacts

Continuous engine exhaust may elevate localized CO concentrations, resulting in "hot spots". Receptors exposed to these CO hot spots may have a greater likelihood of developing adverse health effects. CO hot spots are typically observed at heavily congested intersections where a substantial number of gasoline-powered vehicles idle for prolonged durations throughout the day. BAAQMD screening guidance indicates that a project would not exceed the CO significance threshold if a project's traffic projections indicate traffic levels would not increase at any affected intersection to more than 44,000 vehicles per hour or at any affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.

Operation of the proposed project would generate a small number of vehicle trips to the site. These trips include workers, material, and equipment deliveries. It is unlikely that the addition of vehicle trips from the project on any roadway in the vicinity of the project site would result in an exceedance of the BAAQMD screening threshold. As a result, the additional vehicle trips associated with the project would result in a negligible effect on CO concentrations in the vicinity of the project site.

Table 5.3-8 shows that the CO impacts from the standby generators during readiness testing and maintenance would be well below the limiting standards for the 1-hour and 8-hour average CO concentrations.

Required Mitigation Measures: None.

Health Risk Assessment

Staff conducted a Health Risk Assessment (HRA) for the project that separated the long-term health impacts (cancer and chronic health risks) of construction and that of the standby generator readiness testing and maintenance.

Construction HRA

LESS THAN SIGNIFICANT IMPACT. The construction period for the SDC and SBGF would be approximately 18 months (Sequoia 2019a, page 4.3-12). Construction emissions are a result of construction equipment, material movement, paving activities, and onsite and offsite vehicle trips, such as material haul trucks, worker commutes, and delivery vehicles (Sequoia 2019a, page 4.3-12). TACs considered in evaluating the health impacts of SDC and SBGF are those included in BAAQMD Regulation 2, Rule 5. The TACs evaluated in the construction HRA were diesel particulate matter (DPM), PM2.5, and speciated total organic gases (TOG) from gasoline vehicles (exhaust and evaporation) (Sequoia 2019c, page 2/7). DPM emissions were assumed equal to exhaust PM10 emissions (Sequoia 2019a, Table 4.3-9). The TACs from speciated TOG include (Sequoia 2019a, page 4.3-26):

- 1,3-butadiene
- Acetaldehyde
- Benzene
- Formaldehyde

- Methanol
- Methyl ethyl ketone (MEK)
- Styrene
- Toluene
- Xylene

Cancer and non-cancer chronic risks were modeled based on annual DPM emissions. DPM does not have an acute REL. Therefore, non-cancer acute risks were modeled based on 1-hour speciated TOG emissions (Sequoia 2019a, page 4.3-27).

Applicant's Construction HRA

A screening HRA was conducted to evaluate the potential health risks due to construction of the SDC and SBGF. The TAC emissions associated with the project construction were calculated with the following assumptions and exceptions (Sequoia 2019c, page 2/7):

1. Diesel Particulate Matter (DPM): DPM emissions were used to evaluate the cancer risk and noncancer chronic HI from project construction. In applicant's analysis, only onsite (i.e., construction equipment) Particulate Matter less than or equal to 10 microns (PM10) exhaust emissions were calculated as DPM and modeled within the project boundary. All off-road construction equipment was assumed to be default Tiers as specified in California Emission Estimator Model version 2016.3.2 (CalEEMod®).
2. PM2.5: Exhaust Particulate Matter less than or equal to 2.5 microns (PM2.5) emissions were used to evaluate the PM2.5 concentration due to the project construction. PM2.5 emissions include exhaust emissions from construction equipment and fugitive emissions.
3. TOG: Speciated (total organic gases) TOG emissions from gasoline vehicles (exhaust and evaporation) were used to evaluate non-cancer acute HI from project construction. These include emissions from gasoline truck trips and construction equipment. TOG emitted from gasoline vehicle exhaust and evaporative losses are composed of a number of toxic components such as benzene, naphthalene and acetaldehyde. Unlike DPM, no surrogate method is currently approved to estimate health impacts from TOG as a whole. Thus, TOG impacts must be calculated using a component based method. Total TOG emissions from construction equipment are split into individual toxic components using CARB's diesel off-road exhaust profile.

As shown in **Table 5.3-9**, the maximum cancer risk from construction activities is seen in worker receptors (Point of Maximum Impact/Maximally Exposed Individual Worker or PMI/MEIW) and is calculated to be 0.22 in 1 million, compared to a threshold of 10 in 1 million. Construction activities would also result in a non-cancer acute hazard index of 0.0118 and non-cancer chronic hazard index of 0.0115 (compared to a significance threshold of 1.0), and maximum PM2.5 concentration of 0.06 micrograms per cubic meter (µg/m3) (compared to a significance threshold of 0.3 µg/m3). These results are all below the BAAQMD thresholds of significance.

As mentioned above, in addition to residents, it was determined that sensitive receptors include nearby daycare centers and an indoor soccer field. The maximum risks (the incremental cancer risk and chronic and acute HI) were also calculated in these three locations: Maximally Exposed Individual Resident (MEIR), Maximally Exposed Soccer Child Receptor (MESCR) and Maximally Exposed Childcare Receptor (MECR).The results of the HRA for construction activities in **Table 5.3-9** show that the excess

cancer risks, chronic HIs, acute HIs and maximum PM2.5 concentration at the residential receptor (MEIR) and two other sensitive receptors (MESCR and MECR) are all less than BAAQMD's significance thresholds of 10 in 1 million and 1 in 1 million, respectively.

TABLE 5.3-9 CONSTRUCTION -- MODELED RECEPTOR MAXIMUM HEALTH RISK

Receptor Type	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index (HI)	Acute Non-Cancer Hazard Index (HI)	Max PM2.5 Concentration ($\mu g/m^3$)
Residential (MEIR[1])	0.1	9.08E-05	8.84E-05	4.2E-04
Soccer Child (MESCR[2])	0.1	1.19E-04	1.16E-04	5.6E-04
Childcare (MECR[3])	0.1	4.66E-05	4.54E-05	2.2E-04
PMI[4]/MEIW[5]	0.22	1.18E-02	1.15E-02	0.06
BAAQMD Threshold	10	1	1	0.3

Source: Sequoia 2019c, page 22 and Table 6
Notes:
1 Maximally Exposed Individual Resident (MEIR). This residential receptor is located to the southwest of the site at a distance of approximately 1724.38 ft. (0.327 miles).
2 Maximally Exposed Soccer Child Receptor (MESCR)
3 Maximally Exposed Childcare Receptor (MECR)
4 Point of maximum impact (PMI). It is located at the southeast corner of the project boundary.
5 Maximally Exposed Individual Worker (MEIW)

Readiness Testing and Maintenance HRA

LESS THAN SIGNIFICANT IMPACT. Project operation would include TAC emissions from the readiness testing and maintenance of 54 backup generators, all of which are fired exclusively on diesel fuel. All 54 backup generators were assumed to operate for 50 hours per year (Sequoia 2019a, page 4.3-27) for purposes of evaluating TAC impacts. The specific TACs evaluated in the project HRA were diesel particulate matter (DPM) and speciated total organic gases (TOG) in diesel exhaust. DPM emissions were assumed equal to exhaust PM10 emissions (Sequoia 2019a, Table 4.3-9). The TACs from speciated TOG include (Sequoia 2019a, page 4.3-26):

- 1,3-butadiene
- Acetaldehyde
- Benzene
- Formaldehyde
- Methanol
- Methyl ethyl ketone (MEK)
- Styrene
- Toluene
- Xylene

As mentioned above, cancer and non-cancer chronic risks were modeled based on annual DPM emissions. DPM does not have an acute REL. Therefore, non-cancer acute risks were modeled based on 1-hour speciated TOG emissions (Sequoia 2019a, page 4.3-27).

Applicant's Readiness Testing and Maintenance HRA

Applicant's HRA was conducted in accordance with the following guidance:

- Air Toxic Hot Spots Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015),
- BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines (BAAQMD 2016), and
- Guideline on Air Quality Models (EPA 2017).

The HRA included potential health impacts from TAC exposure on receptors through the inhalation, dermal absorption, soil ingestion, and mother's milk pathways, as required by OEHHA Guidance. The inhalation cancer potency, oral slope factor values, and RELs used to characterize health risks associated with the modeled impacts were obtained from the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values (OEHHA 2018). The pathways for surface drinking water, still-water fishing, and subsistence farming are not applicable per regulatory guidance and thus were not included in the assessment. Residential exposure through the consumption of homegrown produce, including pork, chicken, and eggs, were included. OEHHA default exposures were assumed for the mother's milk, homegrown produce, and soil exposure pathways (Sequoia 2019a, page 4.3-24).

Cancer risk was evaluated based on the annual TAC ground-level concentrations, as calculated from AERMOD and the 2015 OEHHA assumptions for inhalation cancer potency, oral slope factor, frequency, and breathing rate of exposed persons (OEHHA 2015) (Sequoia 2019a, page 4.3-25). Chronic toxicity is defined as adverse health effects from prolonged chemical exposure caused by chemicals accumulating in the body. To assess chronic non-cancer exposures from project, annual TAC ground-level concentrations were compared with the RELs developed by OEHHA to obtain a chronic HI. The REL is a concentration in ambient air at, or below which, no adverse health effects are anticipated. Non-cancer chronic health risks were calculated as a hazard quotient, which is the calculated exposure of each contaminant divided by its REL. Hazard quotients for pollutants affecting the same target organ are summed with the resulting totals expressed as HIs for each organ system (Sequoia 2019a, page 4.3-25). Acute toxicity is defined as adverse health effects caused by a brief chemical exposure of no more than 24 hours. To assess acute non-cancer exposures from the project, 1-hour TAC ground-level concentrations were compared with the acute REL to obtain an acute HI. Similar to assessing chronic non-cancer health risks, acute health risks were calculated as a hazard quotient, which is the calculated exposure of each contaminant divided by its REL. Hazard quotients for pollutants affecting the same target organ were summed with the resulting totals expressed as HIs for each organ system (Sequoia 2019a, page 4.3-25).

These exposed populations include residential, worker, and sensitive receptors. Both long-term health impacts (cancer risk and chronic HI) and short-term health impacts (acute HI) were evaluated for all locations, as applicable. Offsite resident receptors were assumed to be present at one location for a 30-year period, beginning with exposure in the third trimester of pregnancy. Offsite worker receptors were assumed to be present at one location for a 25-year period, beginning with exposure at the age of 16, for 8 hours per day and 250 days per year (Sequoia 2019a, page 4.3-33). The cancer risk, chronic HI and acute HI for the Maximally Exposed Individual Resident (MEIR), Maximally Exposed Individual Worker (MEIW), or Maximally Exposed Sensitive Receptor (MESR) were compared to corresponding BAAQMD threshold levels (Sequoia 2019a, page 4.3-25). These results are presented below.

The results of the applicant's HRA for facility wide SBGF readiness testing and maintenance are presented in **Table 5.3-10** and show that the incremental cancer risk and chronic and acute HI at each of the PMI, MEIR, MEIW, and MESR locations would be less than the BAAQMD's significance thresholds of 10 in 1 million and 1 in 1 million, respectively.

As mentioned above, the applicant would comply with US EPA Tier 4 emission standards by including the Miratech system, which includes both SCR and DPF Systems. Ammonia would be emitted from the urea used in the SCR system (Sequoia 2021a), increasing the health risk. The project ammonia emission would be 0.21 lb/hr and 0.278 tons/yr (557 lbs/yr) as estimated by the applicant (Sequoia 2021b). For ammonia, the trigger levels in BAAQMD Regulation 2 Rule 5 are 7.1 lb/hr for acute and 7,700 lb/year for chronic. Therefore, the ammonia emissions would not exceed the trigger levels in BAAQMD Regulation 2 Rule 5, and additional health risk assessments are not necessary.

TABLE 5.3-10 READINESS TESTING AND MAINTENANCE – MODELED RECEPTOR MAXIMUM HEALTH RISK

Receptor Type	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index (HI)	Acute Non-Cancer Hazard Index (HI)	Max PM2.5 Concentration (µg/m^3)
MEIR[1]	0.19	0.00005	0.1	0.0003
MEIW[2]	2.2	0.007	0.54	0.04
MESCR[3]	0.002	0.00006	0.11	0.00031
MECR[4]	0.5	0.00003	0.06	0.00016
PMI[5]	2.2	0.007	0.54	0.04
BAAQMD Threshold	10	1	1	0.3

Source: Sequoia 2019a, Table 4.3-12 and Sequoia 2019b, Table 17

Notes:
1 Maximally Exposed Individual Resident (MEIR). This residential receptor is located to the southwest of the site at a distance of approximately 1724.38 ft. (0.327 miles).
2 Maximally Exposed Individual Worker (MEIW)
3 Maximally Exposed Soccer Child Receptor (MESCR)
4 Maximally Exposed Childcare Receptor (MECR)
5 Point of maximum impact (PMI). It is located to the south of the site at a distance of approximately 200 ft.

Evaluating Emergency Operations

The air quality impacts of emergency generator operation during emergencies are not quantified below because impacts of emergency operations are typically not evaluated during facility permitting and air districts do not normally conduct an air quality impact assessment of such impacts. Energy Commission staff assessed the likelihood of emergency events, but finds that assessing the air quality impacts of emergency operations would require a host of unvalidated, unverifiable, and speculative assumptions about when and under what circumstances such a hypothetical emergency would occur. Such a speculative analysis is not required under CEQA (CEQA Guidelines § 15064(d)(3)).

Staff determined that assessing air quality impacts of emergency operation of the SBGF standby generators would be speculative for the following reasons:

- Emergency operations only occur when the facility has a power outage. Power outages in the SVP service territory have historically been very infrequent and irregular and are expected to remain so. Outages have been unplanned and unpredictable. During most years there have been no outages that have triggered operation of emergency generators at data centers in SVP's service

territory. Even when outages have occurred, they have affected only a small number of similar facilities.

- Outage durations are variable and unpredictable, depending on the cause and the remedy. For example, some would be short enough to avoid triggering emergency operation of the standby generators. Another may be longer if equipment repair or replacement is required. Another may be avoided entirely if a redundant transmission component can be immediately switched into service.
- The number of standby generators that could need to operate during a triggering outage and associated emissions would be continuously variable. The number of generators operating during an emergency would depend on instantaneous power demand of the data center at the time of an outage, and could vary with changing demand during the outage. The number of standby generations that would need to operate during an emergency could also vary because some engines are redundant to ensure reliability should one or more of the engines fail during the emergency. As a result, the exact stack combinations and their locations within SBGF are indeterminate for a specific emergency scenario. Modeling results are highly sensitive to even minor adjustments to these variables.
- The load levels at which the standby generators would need to operate during a power outage would be variable based on the actual power demand during the outage and the level of backup power reliability required by parties contracting to use the data servers. Backup strategies vary, for example, as in how many standby backup generators might be started up to provide "backup" for the other, operating backup generators as a way to provide compound redundancy, should an occupant contract for it.

Factors that would affect the instantaneous power demand of the data center include the data center's level of occupancy, type of occupants and their operational use of their servers, time of day, day of week, holiday or not, the rate of transactions occurring during the outage, and so forth. Data center occupants instantaneously vary the number of servers operating by turning them on or off to adjust to varying processing demand to maintain responsiveness to online customers at the lowest operational cost. For example, the data center power demand required for processing credit card transactions would be expected to be much higher on a "Black Friday" shopping day following a Thanksgiving holiday, than on a slower shopping day. Conversely, overnight server activity could be higher than normal daytime commercial activity when the servers perform backup or mirroring activities.

The amount of electrical demand also depends on the need for cooling, which would vary by season and hour of day.

Additionally, occupants could have varying responses to power outages. They could, for instance, immediately begin shifting their processing load to another data center requiring high initial power demand, and then, once shifting was complete, drastically reduce demand for the remainder of the outage. Similar unpredictable power demand variability can be expected with a mix of other customers such as banking, streaming entertainment, university, call centers, government and public operations and email, communications, and social media. Varying server demand, of course, influences other facility demands, such as for air conditioning to cool operating data servers.

Therefore, staff is unable to make an informed assumption of the level of electrical demand that would be needed during an outage and therefore cannot make an informed estimate of quantified emission rates during emergency use of the backup generator engines.

Historical SVP Power Outage Frequency

This section provides information on the likelihood of an interruption of SVP's electrical supply that would trigger emergency operations of the standby generators at the SBGF. Approximately 10 years of historical data of past outages of data centers in the SVP service territory is available. Staff has used it to estimate the frequency and duration of reasonably foreseeable future electrical outages that could trigger emergency operations. By definition, emergency operations would be unplanned and infrequent.

Reliability statistics for all electric customers served by SVP appears within the 2018 Integrated Resource Plan (IRP), and to expand on this information, Energy Commission staff explored specifically how data centers in SVP's territory have been historically affected by outages.

From the 2018 IRP: "SVP's electric system experiences approximately 0.5 to 1.5 hours of outage time per customer per year. This compares favorably with other utilities in California with reliability factors ranging from 1.0 to 2.5 hours outage per customer per year" (SVP 2018a). The 2018 IRP for SVP reports the Average Service Availability Index (ASAI) – defined as the customer-minutes-available divided by the total customer-minutes, expressed as a percentage – and the ASAI has been 99.979% or higher in each recent year, with an average of 99.989 over the past seven years. The SAIFI (interruptions per customer) shows that one or fewer outages have occurred, on average, for all customer types annually (SVP 2018a). This data for all customers is summarized in **Table 5.3-11**.

TABLE 5.3-11 SVP RELIABILITY STATISTICS FOR ALL CUSTOMER TYPES

Year	ASAI (%)	SAIDI (minutes)	SAIFI (interruptions per customer)	Total Outages (number)
2012	99.994	29.34	0.48	67
2013	99.991	47.33	0.49	69
2014	99.989	56.6	0.48	80
2015	99.986	73.96	0.59	123
2016	99.993	36.29	0.5	123
2017	99.979	109.08	1.03	195
2018	99.992	42.61	0.41	132

Notes:
ASAI (%): Average Service Availability Index - (customer minutes available / total customer minutes, as a %).
SAIDI (minutes): System Average Interruption Duration Index - (average minutes interrupted per customer for all customer).
SAIFI (number): System Average Interruption Frequency Index - (number of interruptions per customer for all customers).
Source: SVP 2018a.

The proposed SDC would be a large customer that would receive better-than-average reliability compared to all SVP customers by including a dedicated onsite substation that would be directly served by SVP's looped 60 kV system. Staff reviewed the frequency and duration of known data center customers' outages as provided by SVP (CEC 2019a) to discern how redundant features allow SVP's system to provide greater reliability to data centers when compared with average SVP customers.

That data indicates that the likelihood of an outage on SVP's looped 60 kV system that forces emergency operation of a data center's standby generator would be "extremely rare" (CEC 2019a). Project-specific design factors include the site-specific substation that would connect SDC to the SVP looped 60 kV system, a limited number of commercial customers on the looped 60 kV system, redundant transformers to supply SDC, and SDC's proposed uninterruptible power supply (UPS) battery system to carry critical loads during short-term electric service disruptions or transients.

In a series of email messages from SVP dated August 2 and August 8, 2019, staff obtained information showing the historical frequency of power outages to data centers in the SVP service territory, rather than to *all* of SVP's electric customers. The Record of Conversation (ROC) included a summary of the past 10 years of operating the SVP system, beginning with 2009. Between December 6, 2012 and August 2, 2019, there were a total of 31 "outages" on some part SVP's 60-kV lines that provide electrical power to the 12-kV distribution system that feeds power to data centers and other customers. Of these 31 outages on the 60-kV system, only two of them actually interrupted service to any data centers. These customers are all served by a distribution system which includes "looped" lines that can provide alternate flow paths for power flow to data centers. Thus, in general, it takes more than one 60-kV system path failure to cause a power outage at data center.

TABLE 5.3-12 SVP OUTAGES KNOWN TO TRIGGER DATA CENTER EMERGENCY OPERATIONS

Date of Outage	Number of Data Centers Experiencing Interruption	Duration of Each Data Center Outage (minutes)	Total Data Center-Minutes Interrupted (per event)	Weighted Average Data Center Minutes Interrupted per Interruption (minutes)
May 28/29, 2016	2	443	886	156
Dec 2, 2016	4	12	48	
Total	**6**	---	**934**	

Notes:
Weighted Average Data Center Minutes Interrupted per Interruption is calculated by dividing total of data center-minutes interrupted by number of data centers interrupted.
Sources: SVP 2018; CEC 2019a

One of the data center outages occurred on May 28/29, 2016 (CEC 2019b, Table 2); the interruption lasted for 7 hours and 23 minutes and forced two data centers into emergency operations (CEC 2019a). The other data center outage occurred on December 2, 2016 and lasted for 12 minutes, forcing four data centers into emergency operations. These two power outages are summarized in **Table 5.3-12**.

Using terms equivalent to those of **Table 5.3-11 (**of total minutes of outages divided by minutes of total service provided), conversations with SVP confirmed that data centers have experienced greater reliability than customers have overall (CEC 2019a). Over the same seven year time span as shown in **Table 5.3-11**, the existing data centers in SVP territory have an ASAI of greater than 99.999% (compared to an average of 99.989% for all customers) , for a data center outage rate of less than 0.001% of data center customer minutes.

Frequency of SVP Data Center Power Outages. Information from SVP and summarized in **Table 5.3-12** indicates that six data center customer interruptions occurred since 2009 (CEC 2019a), for an average of less than one data center outage per year (six data center interruptions over ten years). This implies a chance of 6-out-of-10 or 60%, that one data center somewhere across SVP's entire territory could experience an outage in any given year. SVP indicates that there were 37 operating data centers in the service territory at the time of the Record of Conversation (CEC 2019a), and that they connected to five different loops within the SVP territory, which minimizes the potential that more than one data center would experience simultaneous outage. The combined probability of any one given data center, like SDC, to experience an outage would be the product of 60% (chance of outage for any data center within SVP) times the 1-out-of-37 (2.7%) chance of any one data center experiencing the outage. Therefore, out of the 37 or more data centers historically served by SVP, the probability of a given facility (such as SDC) experiencing an outage in a given year has historically been 60% * 2.7%, or 1.6% probability of an outage per year. Alternatively, this could be expressed as a 98.4% probability that any given data center would *not* experience an outage during any given year.

With the limited history and details available, staff is unable to refine its estimate of the likelihood of SBGF operating during a SVP outage and have requested SVP staff to recommend the likelihood of this occurring. It is worth noting that *all* data center outages occurred in the same year, 2016. Of the 10 years reviewed, only 1 year had *any* data center outages, and 9 of the 10 years had *no* outages.

Staff has no reason to expect that future reliability would be worse than the past.

Duration of Data Center Power Outages. Historical outage data is limited to only two transmission line outages that affected a data center served by SVP 60-KV lines, one of 12 minutes duration and affecting 4 data centers, and one of 443 minutes duration affecting 2 data centers. The weighted average duration of data center outages that have occurred in SVP territory since 2009 as shown in in **Table 5.3-12** was about 156 minutes or 2.6 hours per outage. Outage durations can reasonably be expected to be driven down in the future. Any potential ambient air impacts from emergency operations would thus be expected to be of short duration.

Based on discussions with SVP, outages are always reviewed for root cause (CEC 2019a), and data center customers and SVP can be expected to implement preventative measures to ensure that reliability consistently improves over time, with both outage frequency and outage duration becoming less in the future.

With the high reliability of the SVP system as shown in **Table 5.3-11** and **Table 5.3-12,** emergency operation of the SBGF's standby generators would remain speculative due to the infrequent, irregular, and unplanned nature of outages. It is impossible to predict how frequently emergency operation of the backup standby generators could occur, and should an emergency operation occur, how long it would last, at what power demand level, or how even many facilities would be affected. Although emergency operation of the standby generators due to an electrical outage is reasonably foreseeable, based upon historical SVP data, such operation would be expected to be very infrequent and of short duration. Therefore, it would be speculative to assign any level of certainty to any particular emergency-use scenario.

Air Quality Effects during Emergency Operations

The air quality impacts of emergency operations are generally exempted from modelling by air districts in their permitting evaluations, and such is the practice of BAAQMD (and other air districts),

in whose jurisdiction SBGF would be located. Guidelines from US EPA and local air districts regarding permit evaluations generally do not require air quality impact analysis of emissions that would occur infrequently, be highly intermittent and unpredictable, or be triggered by an emergency.

Permitting of emissions from routine or regularly scheduled activities such as readiness testing and maintenance of emergency engines *are* subject to impacts analyses. The applicant has stated that for the purposes of readiness testing and maintenance, each of the 54 standby generators would operate approximately 10 hours per year (Sequoia 2019a). The impact analysis at SBGF for the proposed readiness testing and maintenance was provided earlier in this air quality analysis.

The BAAQMD regulation on stationary internal combustion engines (Regulation 9, Rule 8, section 231.5) defines emergency use as "the use of an emergency standby or low usage engine in the event of [an] unforeseeable failure of [the] regular electric power supply. Emergencies are therefore, unplanned, uncontrolled, infrequent, and unlikely." Additionally, BAAQMD Regulation 9, Rule 8, section 237 defines unforeseeable as "not able to be reasonably anticipated and demonstrated by the owner or operator to the satisfaction of the Air Pollution Control Officer to have been beyond the reasonable control of the owner or operator."

The BAAQMD and other air districts and permitting agencies routinely conduct air quality impact analyses (called AQIAs) when evaluating projects involving stationary air pollution sources. For emergency-use-only equipment, the 35 California local air district rules typically do not require them to include emergency operations in their AQIA. Some air districts place a limit of 200 hours of emergency operation, while other agencies rely on the ARB Air Toxic Control Measure (ATCM), which allows unlimited emergency operation:

1. ARB's ATCM allows for 50 to 100 hours per year for readiness testing and maintenance, and includes unlimited hours for emergency operations.

   The emission limitations in the ATCM are different depending on whether an engine is used as an emergency standby engine (i.e., used only during emergencies such as an electrical outage, flood, or fire) or as a prime engine. Emergency standby engines, since they typically operate no more than 20 to 50 hours a year, have different standards than prime engines, which operate hundreds to thousands of hours per year. The ATCM limits the number of hours an emergency standby engine can operate for maintenance and testing purposes to no more than 50 to 100 hours per year. The ATCM does not limit emergency use hours (ARB 2010).

2. BAAQMD uses the ARB's ATCM and allows 50 hours of readiness testing and maintenance and unlimited hours of emergency operations. In some permits, the engineering evaluations resulted in fewer than 50 hours of testing following the ARB's ATCM requirements; however, the applicant requested those limitations at the time of permitting.

3. South Coast Air Quality Management District (SCAQMD) Rule 1304 specifically allows their Executive Officer to exempt AQIA modeling of emergency standby equipment and the requirement for such equipment to obtain emissions offsets as long as this equipment does not operate more than 200 hours per year. In addition, SCAQMD Rule 1401 exempts such equipment from an evaluation of toxic air contaminants during an emergency.

4. Sacramento AQMD published guidance effective January 1, 2012, that stated how they would evaluate emergency operations of emergency generators in a Policy and Procedures document titled "NO_2 Modeling for Intermittent Operating Units". They estimated that for facilities that would operate only 50 to 200 hours per year, there was only a 0.57 to 2.34 percent chance of

having a peak project impact during the same time as peak background concentrations. The guidance document concluded that there was therefore no need to conduct an AQIA for such facilities for permitting purposes.

5. San Joaquin Valley (SJV) APCD's Rule 2201 (Part 4.6.2) also specifically exempts emergency standby equipment that operates no more than 200 hours per year from the requirement to obtain offsets. This district also developed guidance for evaluating emergency operations of emergency equipment located at a permitted facility and this guidance mirrors the guidance described above that was developed by Sacramento Metropolitan AQMD (SJVAPCD 2011).
6. The U.S. Environmental Protection Agency (U.S. EPA) provides guidance on their requirements for evaluating intermittent facility operations under New Source Reviews in their *Guideline on Air Quality Models*. Additionally, a March 1, 2011 guidance memorandum from U.S. EPA states that modeling intermittent emissions units, such as emergency generators, is a "major challenge" and that is one of the reasons for their guidance on how to evaluate intermittent operations. This document emphasizes that there is sufficient discretion within the existing guidelines for reviewing authorities to not include intermittent emissions from emergency generators in compliance demonstrations.

   The Code of Federal Regulations, 40 CFR 52.21(b)(23), generally calls for an AQIA if a project's new or modified emissions are over 40 tons/year of NOx. SBGF would have to be permitted for more than the estimated 50 hours at full load before this requirement would be triggered.

Based on staff's review of air quality agency practices summarized above, staff concludes that emergency operations are too infrequent and unable to be reliably evaluated for ambient air quality impacts. Staff takes into consideration: the low likelihood of emergency operation occurring and the intermittency of emergency equipment operating for emergency purposes; the expectation these standby generators would run only a few hours per year due to emergencies; and the unlikelihood that emergency emissions would occur during the same time as a peak background concentration. Staff's review of the guidance suggests that modeling to evaluate ambient air quality impacts for criteria pollutants, specifically for the 1-hour NO_2 standard, due to a hypothetical emergency scenario, is not warranted. As of the time of publication of this initial study, staff has not received any contrary guidance from any air quality agency.

Due to the number of factors that need to be considered, evaluating ambient air quality impacts during emergency operations would require unnecessary speculation. Staff concludes that an impacts analysis would be more informative as a qualitative assessment of whether a project would operate under an emergency scenario. Such an emergency operation would be very infrequent, if it occurs at all. Silicon Valley Power, which would provide grid power to the facility, provides an average service availability to all customers of at least 99.979 percent, according to **Table 5.3-11**, meaning that the need for the Sequoia Backup Generating Facility to provide emergency power would be very low. Emergency operations would certainly not occur routinely during the lifetime of the facility, and the reliability of electricity service from SVP ensures that the majority of years would most likely see no emergency operation at all.

Based on this information, the project's unlikely emergency operation, due to the reliability of the SVP transmission systems suggests that SBGF would rarely enter into emergency operations. Accordingly, the possibility of any adverse impacts to ambient air quality concentrations would be a very low probability event.

Thus, staff concludes that assessing the impacts of emergency operation of the standby generators would be speculative due to the infrequent, irregular, and unplanned nature of outages. In combination with the reliability of the SVP system as shown in **Table 5.3-11**, the project's emergency operation would be unlikely to expose sensitive receptors to substantial concentrations of criteria air pollutants.

Health Risk Assessment During Emergency Operations

The potential health impacts of toxic air contaminants emitted as a result of emergency operations would be similar to those evaluated for readiness testing and maintenance. As described above, the SBGF would rarely enter into emergency operations. Accordingly, the possibility of any adverse impact to health risk, including cancer risk, chronic non-cancer, and acute non-cancer effects would be unlikely. Health risks during readiness testing and maintenance were evaluated assuming a total of 50 hours of operation per year for all 54 generators operating simultaneously. Readiness testing and maintenance activities are expected to occur 10 to 12 hour per year. Thus, the analysis can be extended to include emergency operations up to 38 hours per year per engine and HRA results presented for readiness testing and maintenance should capture the effect of likely emergency operation.

The applicant's analysis of acute impacts, shown in **Table 5.3-10** includes all standby generators in emergency operation for acute impacts determination related to the standby generators TACs that have acute RELs; that analysis showed the acute impacts to be below the significance threshold, so no additional impact analysis is required to evaluate emergency operations for acute risk. Therefore, including consideration of potential emergency operation, the project is expected to have less than significant acute health risks.

The chronic health risks determined for project construction and readiness testing and maintenance, shown in **Tables 5.3-9** and **5.3-10** are substantially below the significance threshold, and no reasonable emergency operation scenario would change that finding. Therefore, including consideration of potential emergency operations, the project would have less than significant chronic health risks.

Required Mitigation Measures: None.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The BAAQMD states that, while offensive odors rarely cause direct health impacts or any physical harm, they still can be very unpleasant and lead to considerable distress among the public, often generating citizen complaints to local governments and the BAAQMD (BAAQMD 2017b). Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact. Odor impacts on residential areas and other sensitive receptors warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Construction

LESS THAN SIGNIFICANT IMPACT. Potential odor sources during construction activities include diesel exhaust from heavy-duty equipment. Odors from construction activities near existing receptors would be temporary in nature and dissipate as a function of distance. Accordingly, construction of the project is not expected to result in odor impacts that would exceed BAAQMD's odor thresholds.

Fugitive dust emissions can also create a nuisance that can cause adverse effects. The project is proposing to comply with the BAAQMD construction fugitive dust control BMPs and so should not have substantial fugitive dust emissions during construction that could adversely affect a substantial number of people.

Therefore, during construction the project would not result in other emissions that could adversely affect a substantial number of people, and would have less than significant impacts.

Readiness Testing and Maintenance, and Emergency Operation

LESS THAN SIGNIFICANT IMPACT. Potential odor sources from project testing and maintenance along with emergency operations would include diesel exhaust from standby generator readiness testing and maintenance, trash pick-up and other heavy-duty delivery vehicles, and the occasional use of architectural coatings during routine maintenance. When compared to existing odor sources near the project site, which include heavy and light industrial uses, odor impacts from project testing and maintenance along with emergency operations would be similar.

Under the BAAQMD CEQA guidelines, determining the significance of potential odor impacts involves a two-step process. First, determine whether the project would result in an odor source and receptors being located within the distances indicated in **Table 5.3-13**. This table also lists types of facilities known to emit objectionable odors. Second, if the proposed project would result in an odor source and receptors being located closer than the screening level distances indicated in **Table 5.3-13**, a more detailed analysis should be conducted, as described in the BAAQMD 2017 CEQA Guidelines (BAAQMD 2017b).

TABLE 5.3-13 PROJECT SCREENING TRIGGER LEVELS FOR POTENTIAL ODOR SOURCES

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile

TABLE 5.3-13 PROJECT SCREENING TRIGGER LEVELS FOR POTENTIAL ODOR SOURCES

Land Use/Type of Operation	Project Screening Distance
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: BAAQMD 2017b

The project is not an odor source listed in **Table 5.3-13** and this project type is not known to cause any significant odor impacts. A further evaluation of this facility is not warranted by any local conditions or special circumstances. Therefore, staff finds that the project would not likely create objectionable odors affecting a substantial number of people.

The project would have no ongoing fugitive dust emissions sources once it is built and operating. Therefore, nuisance dust impacts would not occur during readiness testing and maintenance or any emergency operation. During testing and maintenance along with emergency operation, the project would not result in other emissions that could adversely affect a substantial number of people, and would have less than significant impacts.

Required Mitigation Measures: None.

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5.9 Hazards and Hazardous Materials

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the Sequoia Data Center (SDC or project) with respect to hazards and hazardous materials.

HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐
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, would the project 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?	☐	☐	☐	☒

Environmental checklist established by CEQA Guidelines, Appendix G.

5.9.1 Setting

Hazardous Waste and Substances Sites

The project owner hired Ramboll US Corporation (Ramboll) to conduct a Phase 1 Environmental Site Assessment (ESA) and to determine the location of hazardous wastes and hazardous material release sites within 0.25 mile of the project. The analysis provided by Ramboll included within the Phase 1 Environmental Site Assessment a search through Environmental Data Resources, Inc (EDR) proprietary database related to generation, storage, handling, transportation, treatment of wastes, and the remediation of contaminated soil and groundwater sites. Ramboll's search included searches of the State Water Resources Control Board's (SWRCB), GeoTracker database, and the California Department of Toxic Substance Control's (DTSC) EnviroStor database.

The site was used for agricultural purposes until the late 1930s. It is likely that agricultural chemicals such as pesticides, herbicides, and fertilizers were used on the site. The site was undeveloped land until redevelopment occurred with the current facility as a paper mill in the late 1950s. A primary mill building

was located on site in addition to chemical storage tanks, containers, and mill machinery. The site continuously operated as a paper mill until 2017.

Past environmental work at the site included the removal of twelve underground storage tanks used to store solvents and fuel. Eleven of the tanks were removed in the 1980s and 1990s with regulatory oversight, apart from one gasoline underground storage tank that was abandoned in place. Investigations, remediation, and monitoring were conducted from the 1980s until 2000. The Santa Clara Water Valley District (SCWVD) in concurrence with the San Francisco Regional Water Quality Control Board issued a closure for the releases from the underground storage tanks (Sequoia 2019b). This was based on the SCWVD's conclusion that the remaining contamination did not represent a significant threat to groundwater due to the stable or decreasing trends and distribution of petroleum hydrocarbon concentrations in groundwater.

Ramboll conducted a limited subsurface investigation in December 2017 that included nine groundwater-sampling locations and five soil vapor samples at the site to evaluate the current subsurface conditions at prior underground storage tank locations and other areas. The results of the investigation included detections of petroleum hydrocarbons and fuel-related volatile organic compounds (VOCs) generally localized to the former underground storage tank locations and mill areas. The concentrations are predominantly below those measured at the time of the underground storage tank closure in 2000. Soil vapor detections included fuel-related VOCs and chlorinated solvents. However, all of the detections were below the most stringent (i.e., residential land use) screening criteria published by the U.S. Environmental Protection Agency and the California Environmental Protection Agency for evaluation of vapor intrusion risks.

Airports

The Norman Y. Mineta San Jose International Airport, a public airport, is located approximately 100 feet east of the proposed project and has two runways that exceed 3,200 feet in length (Air Nav 2019). The Santa Clara County Comprehensive Land Use Plan (CLUP) shows that the project falls within the Inner Safety Zone (ISZ) and is located within the Turning Safety Zone (TSZ) as well. The ISZ represents the approach and departure corridors that have the second highest level of exposure to potential aircraft accidents. The TSZ represents the approach and departure areas that have the third highest level of exposure to potential aircraft accidents. The project's Federal Aviation Regulations (FAR) Part 77 (obstruction) surface is 162 feet above mean sea level (AMSL), as identified in Figure 6 of the Comprehensive Land Use Plan for San Jose International Airport (SCCALUC 2016).

Schools

There are no schools within 0.25 mile of the project site. The closest schools are the Granada Islamic Elementary School, which is approximately 0.90 miles northwest of SDC, and the Scott Lane Elementary School that is approximately 0.95 miles southwest from the project site.

Emergency Evacuation Routes

The Santa Clara Local Hazard Mitigation Plan (Santa Clara County 2017) identifies hazards and provides a risk assessment for the potential natural hazards that could impact the county. The plans do not identify any designated evacuation routes near the project site.

Wildfire Hazards

The California Department of Forestry and Fire Protection (Cal Fire) identifies and maps areas of significant fire hazards based on fuels, terrain, and other relevant factors. The maps identify this information as a series of Fire Hazard Severity Zones, which are progressively ranked in severity as un-zoned, moderate, high, and very high. State responsibility areas (SRAs) are locations where the State of California is responsible for wildland fire protection. Local responsibility areas (LRAs) are locations where the responding agency is the local county or city. The new SDC would be located within Santa Clara County.

The Cal Fire maps for Santa Clara County (CalFire 2007) indicate that the project site is located in an LRA. Within the LRA, the project site falls within an un-zoned Fire Hazard Severity Zone that indicates that the project site has a less than moderate susceptibility to wildland fires. For more information on wildfire hazards, see **Section 5.19, Wildfire**.

Regulatory Background

Hazardous substances are defined by federal and state regulations that aim to protect public health and the environment. Hazardous materials are those that have certain chemical, physical, or infectious properties. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) section 101(14), and also in Title 22, California Code of Regulations, section 66260.10 and California Health & Safety Code section 25501, which defines a "hazardous material" as:

> a material listed in paragraph (2) that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment, or a material specified in an ordinance adopted pursuant to paragraph (3).

For this analysis, soil that is excavated from a site containing hazardous materials would be considered to be a hazardous waste if it exceeded specific Title 22, California Code of Regulations criteria, criteria defined in CERCLA, or other relevant federal regulations. (See Definition of Hazardous Waste, Title 22 Cal. Code Regs., § 66261.3.) Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials occurs; remediation may also be required if certain other activities occur. Even if soils or groundwater at a contaminated site do not have the characteristics required to be defined as hazardous wastes, remediation of the site may be required by regulatory agencies with jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

Federal

Resource Conservation and Recovery Act. The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act.

Comprehensive Environmental Response, Compensation, and Liability Act. Congress enacted the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), including the Superfund program, on December 11, 1980. This law provided broad federal authority to respond directly

to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established 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. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The National Contingency Plan also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Department of Transportation. The United States Department of Transportation is the primary federal agency responsible for regulating the proper handling and storage of hazardous materials during transportation (49 C.F.R. §§ 171-177 and 350-399).

Federal Aviation Administration. Title 14, Part 77.9 of the Code of Federal Regulations requires Federal Aviation Administration (FAA) notification for any construction or alteration of navigable airspace exceeding 200 feet above ground level (AGL). It also requires notification for construction or alterations within 20,000 feet of an airport with a runway more than 3,200 feet in length if the height of the construction or alteration exceeds a slope of 100 to 1 extending outward and upward from the nearest point of the nearest runway of the airport. If a project's height exceeds 200 feet or exceeds the 100:1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

State

California Environmental Protection Agency. The California Environmental Protection Agency (CalEPA),created in 1991, unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board (CARB), State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCBs), Integrated Waste Management Board, DTSC, Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies under the CalEPA "umbrella" provide protection of human health and the environment and ensure the coordinated deployment of state resources. Their mission is to restore, protect and enhance the environment, to ensure public health, environmental quality, and economic vitality.

The California Hazardous Waste Control Law. CalEPA administers the California Hazardous Waste Control Law to regulate hazardous wastes. The Hazardous Waste Control Law lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

Department of Toxic Substances Control. DTSC is a department within CalEPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

California Occupational Safety and Health Administration. California Occupational Safety and Health Administration (Cal OSHA) is the primary agency responsible for worker safety related to the handling and use of chemicals in the workplace. Cal OSHA standards are generally more stringent than federal

regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (Title 8, Cal. Code Regs., §§ 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Department of California Highway Patrol. Department of California Highway Patrol is the primary agency responsible for enforcing the regulations related to the transport of hazardous materials on California roads and highways (Title 13, Cal. Code Regs., §§ 1160-1167).

Local

Santa Clara County Operational Area Hazard Mitigation Plan. The plan includes a risk assessment that identifies the natural hazards and risks that can impact a community based on historical experience, estimates the potential frequency and magnitude of disasters, and assesses potential losses to life and property. The plan also includes developed mitigation goals and objectives as part of a strategy for mitigating hazard-related losses.

5.9.2 Environmental Impacts and Mitigation Measures

Applicant Proposed Measures:

HAZ-1: If contaminated soils from agricultural or industrial use are unexpectedly encountered during any construction activities, work in the area shall be temporarily halted and the corresponding jurisdiction (the City) shall coordinate with the contractor and the Alameda County Environmental Health Department to determine appropriate treatment and removal of contaminated soils.

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction

LESS THAN SIGNIFICANT IMPACT. During the construction phase of the project, the only hazardous materials used would be paints, cleaners, solvents, gasoline, motor oil, welding gases, and lubricants. When not in use, any hazardous material would be stored in designated construction staging areas in compliance with local, state, and federal requirements. Any impacts resulting from spills or other accidental releases of these materials would be limited to the site due to the small quantities involved and their infrequent use, hence reduced chances of release. Temporary containment berms would also be used to help contain any spills during the construction of the project.

During construction, all 54 diesel generator fuel tanks would have to be filled. The transportation of the diesel fuel to the site would take several tanker truck trips. Diesel fuel has a long history of being routinely transported and used as a common motor fuel. It is appropriate to rely upon the extensive regulatory program that applies to the shipment of hazardous materials on California highways and roads to ensure safe handling in general transportation (see Federal Hazardous Materials Transportation Law 49 USC § 5101 et seq., DOT regulations 49 C.F.R. subpart H, §§ 172–700, and California Department of Motor Vehicles (DMV) regulations on hazardous cargo). Thus, the transportation of diesel fuel would pose a less than significant risk to the surrounding public.

Therefore, the routine transport, use or disposal of hazardous materials would have a less than significant impact to the public or the environment.

Operation and Maintenance

LESS THAN SIGNIFICANT IMPACT. During the operational phase of the project, diesel fuel would be stored on-site but the generators would only be filled to 95 percent capacity of its tank. The diesel fuel would be used during emergencies, testing, and maintenance. Each generator would be run once a month for 30 minutes with no load on the engine. The no load test would require the tanks to be refilled to 95 percent capacity approximately every three to five months. Each generator would also be required to run for a total of four hours per year, under maximum load, for yearly testing purposes.

Projects with diesel-fired back up generators would use standard practice for fuel quality and maintenance of stored diesel fuel. Standard practice includes that each engine would have a dual fuel filter system and that the fuel would be replenished after testing. The fuel water separators (a three bank system) would be the primary fuel filter. The secondary fuel filter, installed just before the fuel would be injected into the engine, would filter the fuel down to particles less **than** five microns in size. Routine replacement of the engine dual fuel filters would reduce any effects of fuel degradation on engine components and operation. Commercial diesel fuels also contain biocides that prevent microbial growth and additives that help to stabilize the fuel for several months. Additionally, the diesel fuel would be replenished with fresh fuel after each month's testing procedures.

Tier 4 diesel generators would use selective catalytic reduction (SCR) that injects a liquid-reductant through a special catalyst into the exhaust stream of the diesel engine to reduce the amount of oxides of nitrogen in the final exhaust stream. The reductant, commonly called diesel exhaust fluid (DEF), is a non-hazardous solution of 67.5 percent water and 32.5 percent automotive grade urea, as is used for SCR on highway-going diesel transport trucks. DEF consumption would vary depending upon the environment, operation, and duty cycle of equipment. On average, DEF consumption would be 3 percent to 5 percent of diesel fuel consumption. DEF tank levels would be monitored and refilled as necessary.

With the above listed safety features and precautions, the risk to the off-site public or environment through the routine transport, use or disposal of hazardous materials would have a less than significant impact.

Required Mitigation Measures: None.

b. Would the project 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?

Construction

LESS THAN SIGNIFICANT IMPACT. As described under the discussion for impact *criterion a.*, project construction would require the limited use of hazardous materials, such as fuels, lubricants, and solvents. The storage and use of hazardous materials during construction could result in the accidental release of small quantities of hazardous materials typically associated with minor spills or leaks. However, as discussed in impact *criterion a.*, hazardous materials would be stored, handled, and used in accordance with applicable regulations. Personnel would be required to follow instructions on health and safety precautions and procedures to follow in the event of a release of hazardous materials. All equipment and materials storage would be routinely inspected for leaks. Records would be maintained for documenting compliance with the storage and handling of hazardous materials.

For the above reasons, the project impacts would be less than significant.

Operation and Maintenance

LESS THAN SIGNIFICANT IMPACT. The project would not create a significant hazard to the public or environment due to an accidental release of a hazardous material. Although a substantial quantity of diesel fuel would be stored on-site, its storage would be split among many separate tanks, with a portion of it stored in the double-walled belly tank beneath each generator, effectively limiting a worse case spill to the quantity held within one tank. Each tank is capable of holding 6,800 gallons of diesel fuel.

Each generator's integrated fuel tank would be of a double-walled high integrity design. The interstitial space between the inner and outer walls of each tank would be continuously monitored electronically for the presence of leaks through the inner wall. The monitoring system would be electronically linked to an alarm system in the security office that would alert personnel if a leak were detected in any of the inner tanks. Additionally, the fuel tanks would be placed into a subsurface pit that would limit the migration of any spilled diesel.

Deliveries of diesel fuel by tanker truck during the project's operation would be scheduled on an as-needed basis. Diesel tanker trucks would use wheel chocks to prevent the truck from moving before complete disconnection of the transfer lines. An emergency pump shut-off would be available in case a pump hose breaks during the fueling. In addition, a temporary spill catch basin would be located at the fill port of each belly tank during refilling.

Required Mitigation Measures: None.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Construction

NO IMPACT. There are no schools located or proposed within 0.25 mile of the project site. In addition, there are no hazardous materials that would be emitted from the site at rates capable of creating offsite impacts. Therefore, there would be no impact.

Operation and Maintenance

NO IMPACT. There are no schools located or proposed within 0.25 mile of the project site. Therefore, no impact from the operation or maintenance of the project would occur.

d. Would the project be located on a site that 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?

Construction

LESS THAN SIGNIFICANT IMPACT. According to a review of the Envirostor and GeoTracker databases, the project site does not have any known, open cases on the hazardous materials sites compiled pursuant to Government Code section 65962.5. Ramboll's limited subsurface investigation conducted during the Phase 1 Environmental Site Assessment found low levels of fuel-related VOCs and chlorinated

solvents. However, all of the detections were below the most stringent (i.e., residential land use) screening criteria published by the U.S. Environmental Protection Agency and the California Environmental Protection Agency for evaluation of vapor intrusion risks.

Ground disturbing activities associated with the demolition of existing buildings, the removal of underground utilities, and construction of the project would have the potential to encounter contaminated soil. The contaminated soil could contain residual pesticides and herbicides from agricultural use or fuel-related VOCs and chlorinated solvents from industrial use. With the implementation of the Applicant Proposed Mitigation **HAZ-1**, if contaminated soils are found, the project would halt construction and the soil would be treated in place or removed to an appropriate disposal facility. Therefore, the construction of the project would create a less than significant impact to the public or the environment.

Operation and Maintenance

NO IMPACT. Operation and maintenance activities would not involve excavation activities and would therefore have no impact.

Required Mitigation Measures: None.

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, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Construction

LESS THAN SIGNIFICANT IMPACT. The project site is located approximately 100 feet west of the Norman Y. Mineta San Jose International Airport. The FAA establishes a maximum structure height of 162 feet AMSL at the project site (SCCALUC 2016). Even when accounting for the 43.95-foot AMSL finished floor elevation of the project site, the SDC, at 105 feet AGL and therefore 148.95 feet AMSL, would not exceed the FAA's obstruction surface of 162 AMSL. The project applicant submitted an FAA obstruction analysis with also shows that the project would not exceed any FAA obstruction surfaces. (Sequoia 2019f). Cary Greene, the airport planner for San Jose, reviewed the provided analysis from the project applicant and concurred with the applicant's conclusions from the FAA obstruction analysis (CEC 2019c).

The project site is still subject to Title 14, Part 77.9 of the Code of Federal Regulations, Construction or Alteration Requiring Notice. With a maximum project height of 105 feet AGL, the project would exceed the FAA notification 100:1 surface threshold of 12 feet at the project site. As a result, the project applicant ~~**would need to**~~ submit**ted** Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA. **In February 2020 the FAA issued a Determination of No Hazard for the project's tallest structure (FAA 2020).** ~~**The project applicant has provided a copy of the submitted FAA Notification (Sequoia 2019f). Because the project's tallest structure would be far below the project site's FAR Part 77 (obstruction) surface of 162 feet AMSL, as identified in Figure 6 of the Comprehensive Land Use Plan for San Jose International Airport and below the more detailed obstruction surfaces identified in the applicant's FAA obstruction analysis (Sequoia 2019f), staff anticipates the FAA would issue a Determination of No Hazard (SCCALUC 2016).**~~ Therefore, ~~**staff anticipates that**~~ the project would not pose a safety hazard and would have a less than significant impact.

The project site also falls within the ISZ and TSZ zones. The CLUP's policy S-4 requires that the above ground storage of fuel or other hazardous materials shall be prohibited in the ISZ and the TSZ zones. However, the SDC fuel tanks would be lowered four feet seven inches below grade into a concrete pit. The Santa Clara County Airport Land Use Commission evaluated the proposed SDC and made a finding of consistency with the CLUP's policy S-4 at its regularly scheduled meeting on ~~**November 20**~~**October 23**, 2019 (ALUC). **Additionally, the Santa Clara County Airport Land Use Commission (ALUC) submitted a final consistency determination letter which confirms the project complies with policy S-4 (ALUC 2021).** ~~**With the finding of consistency from the ALUC for the CLUP's policy S-4, SDC would be in compliance with the Santa Clara CLUP**~~. Further discussion on the CLUP's consistency can be found in **Section 5.11, Land Use** and **Section 5.17, Transportation**.

The project **applicant** ~~**would be required to**~~ submit**ted** Form 7460-1, Notice of Proposed Construction of Alteration to the FAA**. In February 2020 the FAA issued a Determination of No Hazard for the project's tallest structure (FAA 2020).** ~~**where staff anticipates the FAA would issue a Determination of No Hazard.**~~ In addition, SDC would be compatible with the ISZ and TSZ zones from the Santa Clara CLUP. Therefore, the project would not pose a safety hazard and would have a less than significant impact. Project construction would not result in excessive noise impacts for people residing or working in the project area, as described in a more detailed analysis in **Section 5.13, Noise**.

Operation and Maintenance

NO IMPACT. Operation and maintenance activities for the project site would be similar to those for a similarly sized industrial building and would not have an impact on people working or residing in the area. In addition, the thermal plume generated by the project would not pose a safety hazard to any aircraft near the Norman Y. Mineta San Jose International Airport. Detailed analysis of potential thermal plume impacts is contained in **Section 5.17, Transportation**.

Required Mitigation Measures: None.

f. Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

Construction

NO IMPACT. A review of the Santa Clara County Operational Area Hazard Mitigation Plan for the project revealed no specific mapping or delineation of emergency evacuation or access routes. The plans identified that the area police, fire department, and other emergency services would implement their emergency response or evacuation plans according to their communications protocols and hazard mitigation programs. The project site is not identified on any emergency evacuation or access routes. In addition, the construction would not require any road closures since the work would all be done onsite. During project construction, there would be no impact to an adopted response plan or emergency evacuation plan.

Operation and Maintenance

NO IMPACT. After construction, no lane closures would be needed, and no impact to a response plan or emergency evacuation plan would occur.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Construction

NO IMPACT. The project site is located in Santa Clara County. It is located within an un-zoned Fire Hazard Severity Zone, within a LRA, indicating that the project site has a less than moderate susceptibility to wildland fires. The project site is not adjacent to wildlands. Buildings bound the project to the north, west and south. The airport bounds the project on the east side. Although equipment and vehicles used during construction, as well as welding activities, have the potential to ignite dry vegetation, the project is located within an urban area surrounded by industrial and commercial zones that have very limited dry vegetation. In addition, the project is located within an un-zoned fire hazard area. Therefore, there would be no impact from wildland fires resulting from construction activities related to the project.

Operation and Maintenance

NO IMPACT. The project site is located within an un-zoned Fire Hazard Severity Zone and therefore, there would be no impact from wildland fires.

5.9.3 References

AirNav 2019 – AirNav. KSJC Norman Y Mineta San Jose International Airport. Available online at: https://www.airnav.com/airport/KSJC. Accessed on October 15, 2019.

ALUC – Connolly, Mark. "RE: ALUC Consistency determination for the Sequoia Data Center located at 2600 De La Cruz Boulevard in Santa Clara." Received by Elaheh Kerachian, December 30, 2019.

ALUC 2021 – Connolly, Mark. ALUC Final Consistency Determination Letter for the Sequoia Data Center located at 2600 De La Cruz Boulevard in Santa Clara. February 03, 2021 (TN 236656) Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03

CalFire 2007 – California Department of Forestry and Fire Protection (CalFire). 2007 *Santa Clara County – Very High Fire Hazard Severity Zones in State Responsibility Area*. Department of Forestry and Fire Protection. Projection Albers, NAD 1927, Scale 1: 100,000 at 32" x 27".

CEC 2019c – Report of Conversation with Cary Greene, Airport Planner, City of San Jose Airport Department, dated December 20, 2019. (TN 231326).

DTSC 2018 – Department of Toxic Substances Control (DTSC). Envirostor Database. Available online at: http://www.envirostor.dtsc.ca.gov/public/. Accessed on: December 18, 2019.

FAA 2020 – Federal Aviation Administration, Determination of No Hazard to Air Navigation. Aeronautical Study No. 2019-AWP-15211-OE, February 03, 2020. (TN 232020) Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

Santa Clara County 2017 – County of Santa Clara Emergency Management. October 15, 2017. *Santa Clara County Operational Area Hazard Mitigation Plan Volumes 1&2.*

SCCALUC 2016 – Santa Clara County Airport Land Use Commission (SCCALUC). 2016. *Mineta San Jose International Airport Comprehensive Land Use Plan for Santa Clara County*. Available online at: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf. Accessed on: October 15, 2019.

Sequoia 2019b – Appendices A-N to the Application for Small Power Plant Exemption: Sequoia Data Center, dated August, 2019. (TN 229419-2/3/4). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

Sequoia 2019f – Applicant responses to Data Request Set 3. (TN 231257). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

SWRCB 2018 – State Water Resources Control Board (SWRCB). GeoTracker Database. Available online at: http://geotracker.waterboards.ca.gov. Accessed on: December 18, 2019.

5.11 Land Use and Planning

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to land use and planning.

LAND USE PLANNING **Would the project:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. 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?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.11.1 Setting

The approximately 15-acre project site is in an area of the City of Santa Clara (City) that is developed with various industrial and commercial uses. Except for miscellaneous infrastructure, the project site is vacant, with portions paved and unpaved. The Union Pacific Railroad tracks border the west side of the site. De La Cruz Boulevard is a major, six-lane roadway bordering the site to the east. The Norman Y. Mineta San Jose International Airport is located directly across De La Cruz Boulevard to the east. A workplace environment design firm, One Workplace, occupies a warehouse space on the adjacent property south of the project site at 2500 De La Cruz Boulevard.

In February 2019, the applicant purchased the approximately 8-acre adjacent parcel north of the project site at 2750 De La Cruz Boulevard. Enterprise Rental Car Agency and its parking area are located on the property, and according to the applicant, the property is subject to a long-term lease. In October 2019, staff submitted a data request to the applicant asking for information on any plans it might have to develop a data center campus that would include the adjacent northern parcel (see TN 230145). The applicant's data response states that potential future development of the northern parcel will depend on several factors and that no current plan or schedule exists for a data center campus (Sequoia 2019d).

Regulatory Background

Federal

No federal regulations relating to land use and planning apply to the project.

State

No state regulations relating to land use and planning apply to the project.

Local

Comprehensive Land Use Plan, Norman Y. Mineta San Jose International Airport. The Santa Clara County Airport Land Use Commission (ALUC) adopted the Comprehensive Land Use Plan (CLUP) for the San Jose International Airport in 2011; the ALUC approved minor amendments to the CLUP in 2016. The purpose of the CLUP is to safeguard the welfare of the inhabitants in the airport vicinity and ensure that new land uses do not affect airport operations. The project site is located within the designated Airport Influence Area (AIA), which is a "composite of the areas surrounding the Airport that are affected by noise, height, and safety considerations." "The AIA is defined as a…boundary around the airport within which all actions,

regulations and permits must be evaluated by local agencies to determine how the Airport Comprehensive Land Use Plan policies may impact the proposed development" (Santa Clara County 2016).

The Santa Clara County CLUP identifies general compatibility policies that apply to ALUC consistency review, including the following:

- **Policy G-5** – Where legally allowed, dedication of an avigation easement to the City of San Jose shall be required to be offered as a condition of approval on all projects located within an Airport Influence Area, other than reconstruction projects as defined in paragraph 4.3.7 [of the CLUP]. All such easements shall be similar to that shown as Exhibit 1 in Appendix A [of the CLUP].
- **Policy G-6** – Any proposed uses that may cause a hazard to aircraft in flight are not permitted within the AIA. Such uses include electrical interference, high intensity lighting, attraction of birds (certain agricultural uses, sanitary landfills), and activities that may produce smoke, dust, or glare. This policy requires the height at maturity of newly planted trees to be considered to avoid future penetration of the Federal Aviation Administration (FAA) Federal Aviation Regulations (FAR) Part 77 surfaces.
- **Policy G-7** – All new exterior lighting or large video displays within the AIA shall be designed so as to create no interference with aircraft operations. Such lighting shall be constructed and located so that only the intended area is illuminated and off-site glare is fully controlled. The lighting shall be arrayed in such a manner that it cannot be mistaken for airport approach or runway lights by pilots.

Policies concerning height compatibility include the following:

- **Policy H-1** – Any structure or object that penetrates the FAR Part 77, *Objects Affecting Navigable Airspace*, (FAR Part 77) surfaces as illustrated in Figure 6 [of the CLUP], is presumed to be a hazard to air navigation and will be considered an incompatible land use, except in the following circumstance. If the structure or object is above the FAR Part 77 surface, the proponent may submit the project data to the FAA for evaluation and air navigation hazard determination, in which case the FAA's determination shall prevail.
- **Policy H-2** – Any project that may exceed a FAR Part 77 surface must notify the FAA as required by FAR Part 77, Subpart B on FAA Form 7460-1, *Notice of Proposed Construction or Alteration*. (Notification to the FAA under FAR Part 77, Subpart B, is required even for certain proposed construction that does not exceed the height limits allowed by Subpart C of the FARs).

The objective of safety compatibility is to minimize the risks associated with potential aircraft accidents. Safety impacts are evaluated according to the Airport Safety Zones shown in Figure 7 of the CLUP; the project site is located within the Inner Safety Zone and Turning Safety Zone. Safety compatibility includes a policy concerning fuel and hazardous materials storage:

- **Policy S-4** – Storage of fuel or other hazardous materials shall be prohibited in the Runway Protection Zone. *Above ground storage of fuel or other hazardous materials shall be prohibited in the Inner Safety Zone and Turning Safety Zone* [emphasis added]. In the Sideline Safety Zones and Outer Safety Zones, storage of fuel or other hazardous materials not associated with aircraft use should be discouraged.

City of Santa Clara 2010–2035 General Plan. The project site is in an area of contiguous properties designated Heavy Industrial, as shown on the Land Use Diagrams for the General Plan's three planning phases. The Heavy Industrial designation "allows primary manufacturing, refining and similar activities. It also accommodates warehousing and distribution, as well as data centers" (Santa Clara 2010). "Because

uses in the designation may be noxious or include hazardous materials," the Heavy Industrial designation prohibits places of assembly and land uses predominantly serving children and the elderly or other sensitive populations, as well as entertainment uses (for example, clubs, theaters, and sports venues). The maximum floor area ratio (FAR) is 0.45.

The General Plan Land Use Diagrams show that the surrounding area includes properties with land use designations of Light Industrial, Public/Quasi Public, and Low Intensity Office/R&D. The nearest areas with residential land use designations are close to a mile southwest of the project site.

Section 5.3.5 of the General Plan contains goals and policies pertaining to industrial development, including a policy on conformance with building height requirements as it pertains to the FAA:

- **5.3.5-P7** – Require building heights to conform to the requirements of the Federal Aviation Administration, where applicable.

Section 5.10.5 of the General Plan contains goals and policies on safety, including airport hazards and airspace protection. Policies concerning projects located in the AIA include the following:

- **5.10.5-P29** – Continue to refer proposed projects located within the Airport Influence Area to the Airport Land Use Commission.
- **5.10.5-P30** – Review the location and design of development within Airport Land Use Commission jurisdiction for compatibility with the Airport Land Use Compatibility Plan.
- **5.10.5-P31** – Discourage schools, hospitals, sensitive uses and critical infrastructure, such as power plants, electric substations and communications facilities, from locating within specified safety zones for the Airport as designated in the Airport Comprehensive Land Use Plan.
- **5.10.5-P32** – Encourage all new projects within the Airport Influence Area to dedicate an avigation easement.
- **5.10.5-P33** – Limit the height of structures in accordance with the Federal Aviation Administration Federal Aviation Regulations, FAR Part 77 criteria.

City of Santa Clara Zoning Code. The project site is in the MH, Heavy Industrial zoning district; permitted uses include "[a]ny manufacturing, processing, assembling, research, wholesale, or storage uses that, in the opinion of the Planning Commission, shall not be objectionable by reason of the production of offensive noise, smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards, industrial wastes, or handling of explosives or dangerous materials" (Santa Clara 2019a, § 18.50.030, subd. (b)).

Maximum permitted building height in the MH zoning district is 70 feet. The City's Zoning Code defines height of buildings as the vertical distance from the adjacent ground elevation "to the highest point of the coping of a flat roof…" (Santa Clara 2019a, §§ 18.06.010, subd. (h)(1); 18.50.070). The Zoning Administrator has the authority to permit a "minor modification" to the building height regulation so long as the increase does not exceed 25 percent of the zoning district's permitted maximum height (Santa Clara 2019a, § 18.90.020, subd. (a)). The height of mechanical equipment and any accompanying screening is subject to approval by the Architectural Committee (Santa Clara 2019a, § 18.50.140, subd. (f)). Each lot must have a street side front yard of not less than 15 feet in depth (Santa Clara 2019a, § 18.50.080).

5.11.2 Environmental Impacts and Mitigation Measures

Applicant Proposed Mitigation Measures: None.

a. Would the project physically divide an established community?

Construction, Operation and Maintenance

NO IMPACT. The project would be constructed and operated on a single parcel of land. The site was previously developed for an industrial use, and the project would involve construction and operation of a new industrial use on the same site. The parcel boundaries would remain the same. No changes are proposed involving construction of new off-site facilities that could physically divide the community. Therefore, project construction, operation and maintenance activities would not physically divide an established community, and no impact would occur.

b. Would the project 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?

Construction, Operation and Maintenance

LESS THAN SIGNIFICANT IMPACT. Staff evaluated the potential for the proposed project to significantly impact operations at the Norman Y. Mineta San Jose International Airport, including creating conditions that would be hazardous to aircraft. An aviation group performed an obstruction analysis for the project on behalf of the applicant using FAA methods for assessing aircraft safety hazards; the analysis produced an obstruction analysis drawing and calculations showing that the project structures would not penetrate or obstruct any FAA Part 77 surfaces (Sequoia 2019f). **Cary Greene, Airport Planner, at the City of San Jose Airport Department reviewed and accepted the applicant's obstruction analysis (CEC 2019c). Additionally, t**~~**T**~~he applicant filed Form 7460-1, Notice of Proposed Construction or Alteration, with the FAA and **in February 2020** ~~**anticipates**~~ receiv**ed**~~**ing**~~ a Determination of No Hazard **for the project (FAA 2020)** ~~**consistent with the conclusions from the obstruction analysis. Additionally, Cary Greene, Airport Planner, at the City of San Jose Airport Department reviewed the applicant's obstruction analysis and agreed with the applicant that the FAA would likely issue the requisite Determination of No Hazard (CEC 2019c). (Sections 5.9 Hazards and Hazardous Materials and 5.17 Transportation of this document provide details on staff's review and analysis of FAA obstruction surfaces.)~~ **Lastly, t**~~**T**~~he Santa Clara County ALUC evaluated the proposed project and **submitted a final consistency determination letter that confirms the project is consistent with** ~~**made a finding of consistency with**~~ the CLUP ~~**at its regularly scheduled meeting on October 23, 2019**~~ (ALUC 2021~~**19**~~). **(Sections 5.9 Hazards and Hazardous Materials and 5.17 Transportation of this document provide details on staff's review and analysis of FAA obstruction surfaces.)** Staff evaluated General Plan policies concerning airport hazards and airspace protection and concluded that the project would be consistent with those policies. As discussed in the subsections that follow, construction, operation and maintenance of the project would not conflict with land use plans or policies such that significant environmental impacts would occur, and the overall impact is less than significant.

Comprehensive Land Use Plan, Norman Y. Mineta San Jose International Airport. The Santa Clara County CLUP includes a general compatibility policy addressing dedication of an avigation easement to the City of San Jose as a condition of approval for projects located within an AIA (see **Policy G-5**, listed above under the subsection, "Regulatory Background"). As the permitting agency for the

proposed project, the City of Santa Clara would ensure consistency with **Policy G-5** by requiring dedication of an avigation easement to the City of San Jose.

Policy G-6 does not permit uses within the AIA that may cause a hazard to aircraft in flight (for example, uses that could cause electrical interference; high intensity lighting; or other uses that may produce smoke, dust, or glare). The proposed project would not involve use of any unlicensed high current, high frequency systems capable of interfering with flight operations, nor would it create smoke or dust or involve uses that could attract birds. The project's diesel generators and chillers would discharge thermal plumes, but not at vertical velocities that would be expected to cause hazards to aircraft in flight, as discussed in section **5.17 Transportation**. The proposed species of new trees to be planted detailed in the "Landscape and Tree Removal Plans" include a mix of native and ornamental species that typically reach heights at maturity ranging from 8 to 70 feet, which would be considerably less than the maximum structure height of 105 feet (Sequoia 2019d). Therefore, the project is consistent with **Policy G-6** from the Santa Clara County CLUP.

Policy G-7 requires exterior lighting to be constructed and located to fully control off-site glare. As discussed in section **5.1 Aesthetics** of this initial study, outdoor lighting would be directed or shielded to ensure the project would not create a new source of substantial light or glare. Therefore, the project is consistent with **Policy G-7**.

Policies **H-1** and **H-2** specify requirements to ensure that structures do not pose hazards to air navigation. The obstruction analysis prepared by the applicant's consultant concludes that project structures would not penetrate or obstruct any FAA Part 77 surfaces, and as discussed in section **5.17 Transportation**, staff anticipates the FAA will issue a Determination of No Hazard. The project is consistent with the two CLUP policies concerning requirements for height compatibility.

Policy S-4 prohibits above ground storage of fuel or other hazardous materials in the Inner Safety Zone and Turning Safety Zone. To ensure compliance with this CLUP policy, the applicant revised the project description to install all of the fuel tanks in a recessed concrete pit with the top of the tanks matching adjacent grade (Sequoia 2019f). The ALUC found the proposed project to be consistent with the CLUP (ALUC 20**21**~~**19**~~). (See also section **5.9 Hazards and Hazardous Materials** of this initial study for an analysis of the proposed project's consistency with the CLUP.) With this change, the project is consistent with **Policy S-4**.

City of Santa Clara 2010–2035 General Plan. The project site is in an area with the General Plan land use designation of Heavy Industrial, which "allows primary manufacturing, refining and similar activities. It also accommodates warehousing and distribution, as well as data centers" (Santa Clara 2010). The proposed project is consistent with the description of uses allowed in areas with this land use designation.

Floor area ratio (FAR) is a tool for local governments to predict and limit the intensity of land uses and their resulting environmental impacts. The FAR of a development is the total square footage of a building(s) on a lot divided by the total lot area. A project with a higher than allowed FAR could cause environmental impacts relating to increased vehicle miles travelled, or VMT. The project's building square footage is 703,450 square feet (sq. ft.). The lot area is 14.959 acres, or 651,614 sq. ft. Using those values, staff calculated FAR to be 1.08, which exceeds the General Plan's maximum FAR of 0.45 for the Heavy Industrial land use designation. However, data centers invariably have low employment densities despite their large size, and the proposed project would not increase the number of

employees and associated VMT to a level that could cause impacts unanticipated by the General Plan. (See also section **5.17 Transportation** of this initial study for an analysis of VMT.) Although the project's FAR exceeds the maximum FAR of 0.45, the project would not cause environmental impacts typically associated with a project with similar square footage but with a relatively high employment density (such as a conventional office building project). Therefore, the impact is less than significant.

Sections 5.3.5 and 5.10.5 of the General Plan contain several policies with directives concerning airport hazards and airspace protection. (See the policies listed above for the *City of Santa Clara 2010–2035 General Plan* under the subsection, "Regulatory Background.") These policies essentially duplicate the content or intent of policies contained in the Santa Clara County CLUP, and as described above, the Santa Clara County ALUC evaluated the proposed project and made a finding of consistency with the CLUP (ALUC 20**21**~~**19**~~). Therefore, the project is consistent with General Plan policies like those contained in the Santa Clara County CLUP.

City of Santa Clara Zoning Code. The Zoning Code grants the City staff Zoning Administrator the authority to permit minor modifications of height, area, and yard regulations. A "minor modification" cannot be greater than 25 percent of the dimensions of an area, space, or height, or other requirement provided for in the Zoning Code (Santa Clara 2019a, § 18.90.020, subd. (a)). The Zoning Code also provides that where a proposed alteration or variation exceeds 25 percent of any requirement, the modification is deemed to be a variance, which requires approval by the Planning Commission at a noticed public hearing (Santa Clara 2019a, §§ 18.90.020, subd. (a)(5); 18.108.030). The project site arrangement provides setback areas on all sides of the project site that exceed minimum yard depths specified in the Zoning Code.

Maximum permitted building height in the MH zoning district is 70 feet (Santa Clara 2019a, § 18.50.070). The data center building would have a typical height of 85 feet from adjacent grade to the top of the main parapet. The applicant is requesting a minor modification of the maximum building height regulation from the City to allow the building height increase from 70 feet to 85 feet. The proposed building height would be a 17.6 percent exceedance, which is below the 25 percent limit the Zoning Administrator can grant as a minor modification to the regulation, rather than deeming it a variance from the regulation requiring Planning Commission approval. Thus, if the Zoning Administrator grants the minor modification to the regulation, the project would be in conformance and no conflict would occur. The applicant submitted a formal planning application to the City of Santa Clara on September 24, 2019, which was scheduled for preliminary review of completeness and compliance with City standards at the City's joint Project Clearance Committee hearing on October 29, 2019 (TN 230348; Santa Clara 2019b). A copy of the planning application is reproduced in the applicant's responses to staff's data requests docketed on October 25, 2019 (TN 230353).

The height of exposed mechanical equipment and any accompanying screening is subject to approval by the City's Architectural Committee (Santa Clara 2019a, § 18.50.140, subd. (f)). The height to the top of screening would be 99 feet from adjacent grade. A stair and freight elevator tower at the southeast corner of the building would be taller than the rest of the building to allow roof access for maintenance of HVAC equipment; the parapet of this building element would be at 105 feet from adjacent grade. The City's Special Height Regulations include regulations pertaining to height requirements subject to additional requirements, conditions and exceptions to those already required by a zoning district. "[T]he height limitations contained in the schedule of district regulations do not apply to spires, belfries, cupolas, antennas, water tanks, ventilators, chimneys, or other mechanical appurtenances usually required to be placed above the roof level and not intended for human

occupancy or to be used for any commercial or advertising purposes" (Santa Clara 2019a, § 18.64.010, subd. (a)). Therefore, the heights and screening for the mechanical equipment and the parapets hiding the equipment would conform to the City's Special Height Regulations.

A few purposes of a height limit are to preserve a scenic vista, protect the public view of a scenic resource (for example, architectural structure, landmark, natural feature), and to maintain the character of a site and surrounding area (for example, residential or commercial area). As analyzed in section **5.1 Aesthetics**, the project as proposed would not significantly affect a scenic vista or scenic resources, and inclusive of the minor modification in allowable building height, the project would maintain the character of the site and surrounding area without causing a conflict with applicable zoning and other regulations governing scenic quality. The project as proposed would not cause a significant impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the impact is less than significant.

Required Mitigation Measures: None.

5.11.3 References

ALUC 2021~~19~~ – Connolly, Mark. **~~"RE:~~** ALUC **Final** Consistency Determination **Letter** for the Sequoia Data Center located at 2600 De La Cruz Boulevard in Santa Clara. **February 03, 2021** **~~"~~(TN 236656)** Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03 **~~Received by Elaheh Kerachian, December 30, 2019.~~**

CEC 2019c – Report of Conversation with Cary Greene, Airport Planner, City of San Jose Airport Department, dated December 20, 2019. (TN 231326)

FAA 2020 – Federal Aviation Administration, Determination of No Hazard to Air Navigation. Aeronautical Study No. 2019-AWP-15211-OE, February 03, 2020. (TN 232020) Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

Sequoia 2019d – Applicant responses to Data Request Set 2. (TN 230347-48, 230353-54, and 230356-57). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

Sequoia 2019f – Applicant responses to Data Request Set 3. (TN 231257). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.

Santa Clara 2010 – Community Development Department, Planning Division. *City of Santa Clara 2010–2035 General Plan*. Chapter 5 Goals and Policies. Section 5.2.2 Land Use Classifications and Diagram. Land Use Diagrams Phases I, II, and III. Section 5.10.5 Safety Goals and Policies. Available online at: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan. Accessed on September 23 and October 14, 2019.

Santa Clara 2019a – Santa Clara City Code. February 2019. Available online at: https://www.codepublishing.com/CA/SantaClara. Accessed on: September 4, 2019.

Santa Clara 2019b – Development Review Process. Available online at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/development-activity/development-review-process. Accessed on: December 31, 2019.

Santa Clara County 2016 – Santa Clara County Airport Land Use Commission. *Norman Y. Mineta San Jose International Airport Comprehensive Land Use Plan for Santa Clara County*. Pages 1-1, 3-17,

4-4, 4-5, 4-7, 4-8, Figures 6, 7, and 8. Adopted by Santa Clara County Airport Land Use Commission, San Jose, CA, May 25, 2011; amended November 16, 2016. Available online at: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf. Accessed on October 21, 2019.

5.17 Transportation

This section describes the environmental and regulatory setting of the project with respect to transportation and discusses transportation impacts associated with construction and operation of the project.

TRANSPORTATION Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G

5.17.1 Setting

The project site is located in the City of Santa Clara on an approximately 15-acre site at 2600 De La Cruz Boulevard. The site is currently vacant. Regional access would be provided by numerous urban roadways and freeways in the vicinity of the project, including U.S. Highway 101 (US-101), Central Expressway, and Lafayette Street. Direct local access to the project site would be from the eastern side of the project at two driveways along De La Cruz Boulevard, one with security clearance for entering vehicles and one for exiting vehicles. A truck access would be constructed along Martin Avenue at the southern side of the project site. A fire loop drive would be located around the building on all sides and would connect all entrances.

Nearby transportation infrastructure includes bike lanes, bus transit, passenger rail, and the Norman Y. Mineta San Jose International Airport. There is a Class II bike lane (with a stripe separating the lane from vehicle traffic) and a Class III bike route (shared with vehicles) along De La Cruz Boulevard near the project site (VTA 2019a). The closest bus stop to the site is located approximately 450 feet northeast of the site along the Santa Clara Valley Transportation Authority's Bus Route 304 (VTA 2019b). Caltrain, Altamont Commuter Express (ACE), and Amtrak's Capitol Corridor provide passenger train service approximately one mile south of the project site at the Santa Clara Station (VTA 2019a). Railroad tracks used by the ACE and Amtrak's Capitol Corridor are adjacent to the western side of the project site (Santa Clara 2010). The San Jose International Airport is located approximately 100 feet from the eastern site boundary and has two runways that exceed 3,200 feet in length (AirNav 2019). There are no sidewalks adjacent to the project site.

Regulatory Background

Federal

Title 14, Part 77.9 of the Code of Federal Regulations requires Federal Aviation Administration (FAA) notification for construction or alterations within 20,000 feet of an airport with a runway more than 3,200 feet in length if the height of the construction or alteration exceeds a slope of 100 to 1 extending

outward and upward from the nearest point of the nearest runway of the airport (CFR 2019a). The threshold for the FAA notification 100 to 1 surface exceedance height is approximately 12 feet at the project site, not taking into account the difference in elevation between the project site and the airport. The threshold for notification at the project site is actually even lower considering that the project site elevation is, and upon project completion would be, higher than that of the airport. If a project's height, including any temporary equipment (such as cranes used during construction) or any ancillary structures (such as transmission poles), exceeds the 100:1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

State

Project construction activities that require movement of oversized or excessive load vehicles on state roadways require a transportation permit issued by Caltrans. Caltrans may also require the applicant to prepare a Transportation Management Plan prior to construction to reduce effects on the state transportation network (Caltrans 2019).

Local

Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan for Norman Y. Mineta San Jose International Airport. Figure 6 of the Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan (CLUP) identifies the Federal Aviation Regulations (FAR) Part 77 surfaces above the project site. FAR Part 77 surfaces are those identified by the FAA as obstruction surfaces around an airport. Exceedance of these surfaces could result in obstruction of airspace and hazards to aircraft entering or exiting the San Jose International Airport. At the project site, the lowest and most restrictive FAR Part 77 surface shown on Figure 6 of the CLUP is at 162 feet above mean sea level (AMSL) (Santa Clara County 2016).

City of Santa Clara 2010-2035 General Plan. The City of Santa Clara 2010-2035 General Plan includes several goals and policies related to the project, including:

5.8.2-P9 Require all new development to provide streets and sidewalks that meet City goals and standards, including new development in employment areas.

5.8.4-P8 Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.

5.8.5-G1 Transportation demand management programs for all new development in order to decrease vehicle miles traveled and single occupant vehicle use.

5.8.5-G2 Transportation demand management programs that promote an increase in vehicle occupancy and a decrease in vehicle trips during commute hours.

5.17.2 Environmental Impacts and Mitigation Measures

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Construction

LESS THAN SIGNIFICANT IMPACT. Project construction would not significantly obstruct any transit, roadway, bicycle, or pedestrian facilities in the area. Construction activities would occur mostly onsite and not in the public right-of-way, with the possible exceptions of: the addition of a sidewalk along the project's frontage on De La Cruz Boulevard; connection to gas services at De La Cruz Boulevard; interception of the transmission line in the railroad right-of-way near the western side of the project for routing into the new substation; and construction and modification of project access points at De La Cruz Boulevard and Martin Avenue. The City of Santa Clara, as the permitting agency, would ensure that these activities would obtain the proper permits to minimize disturbance to roadway and railroad activities. Furthermore, to ensure that significant disruption to roadway circulation would not occur during construction, the City of Santa Clara, as the permitting agency, would require the project owner to obtain all the required permits from Caltrans for the movement of oversized or excessive load vehicles on state roadways, and to submit to Caltrans a Transportation Management Plan, if required for the project, prior to construction to reduce effects on the state transportation network.

Construction would not significantly block access to any roadways or take place on any existing pedestrian, bike, or transit facilities. Project construction would not conflict with any program, plan, ordinance, or policy addressing the circulation system, and would therefore have less than significant impacts.

Operation and Maintenance

NO IMPACT. Operation of the project would occur fully onsite and would not obstruct pedestrian, bike, or transit facilities. Additionally, the project would not interfere with any future pedestrian, bike, or transit plans for the area. The project would be consistent with General Plan policies 5.8.2-P9 and 5.8.4-P8 (discussed under the "Regulatory Background" heading of this section), which require new development to provide improvements such as sidewalks, as the project would involve construction of a new sidewalk along its De La Cruz Boulevard frontage. Thus, the project would help implement pedestrian plans.

Operation of the project would not conflict with any program, plan, ordinance, or policy addressing the circulation system, and would therefore have no impacts.

Required Mitigation Measures: None.

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Construction

LESS THAN SIGNIFICANT IMPACT. CEQA Guidelines section 15064.3, subdivision (a), states that generally vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Increased VMT exceeding

an applicable threshold could constitute a significant impact. If existing models or methods are not available to estimate the VMT for the particular project being considered, a lead agency may analyze the project's VMT qualitatively, evaluating factors such as the availability of transit or proximity to other destinations. For construction traffic, a qualitative analysis of VMT impacts (instead of a more detailed quantitative analysis) is often appropriate (CANRA 2018; see also CEQA Guidelines section 15064.3(b)). The CEQA Guidelines also state that projects within 0.5 mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be regarded as having less than significant impacts with regard to VMT (CANRA, 2018).

Project construction would involve a temporary increase in vehicle trips resulting from workers commuting to the project site, and delivery and hauling of project materials. The 300-day "building phase" of the project would generate the highest number of daily trips: 319 one-way worker trips and 124 one-way vendor trips for a total of 443 daily one-way trips. All workers would be from the greater Bay Area and would not be traveling long distances. Trip length for workers was assumed to be an average of 10.8 miles and trip length for vendors was assumed to be an average of 7.3 miles (Sequoia 2019b, Appendix K: Energy Study, Appendix B: Energy Calculation Sheets).

The project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) because construction-generated traffic would be temporary and all workers would commute from the greater Bay Area, minimizing VMT impacts. Furthermore, the project is located within 0.5 mile of the Santa Clara Valley Transportation Authority's Bus Route 304, which provides frequent bus service during commute hours. VMT impacts from project construction would be less than significant.

Operation and Maintenance

LESS THAN SIGNIFICANT IMPACT. Operation trips would be generated by: the 25 daily employees who would travel to and from the project site; periodic trips by a tanker truck to supply diesel fuel for the generators on an as-needed basis; occasional visits from customers setting up or maintaining equipment; and delivery and trash-hauling trucks. It should be noted that the majority of trips would be made by the 25 employees, and that as a result, the vehicle trips generated by the project would be much lower than the number calculated by the Institute of Transportation Engineers (ITE) trip generation rate for data centers, which estimates an average of 695 daily trips.

According to technical guidance by the Governor's Office of Planning and Research, absent substantial evidence indicating that a project would generate a potentially significant level of VMT or inconsistency with a Sustainable Communities Strategy or general plan, projects that generate fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact (OPR 2018). Project operations would be expected to generate fewer than 110 trips on an average daily basis, and therefore would have a less than significant transportation impact. Furthermore, the City of Santa Clara, as the permitting agency, would require the applicant to prepare and implement a Transportation Demand Management Program for the project to reduce VMT. This is consistent with General Plan goals 5.8.5-G1 and 5.8.5-G2 (discussed under the "Regulatory Background" heading of this section). Additionally, the project is located within 0.5 mile of the Santa Clara Valley Transportation Authority's Bus Route 304, which provides frequent bus service during commute hours. For all these reasons, the project would not conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). VMT generated by the project operation would be less than significant.

Required Mitigation Measures: None.

c. ***Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

Construction

LESS THAN SIGNIFICANT IMPACT. Construction activities would occur mostly onsite and not in the public right-of-way, with the possible exceptions of: the addition of a sidewalk along the project's frontage on De La Cruz Boulevard; connection to gas services at De La Cruz Boulevard; interception of the transmission line in the railroad right-of-way near the western side of the project for routing into the new substation; and construction and modification of project access points at De La Cruz Boulevard and Martin Avenue. The City of Santa Clara, as the permitting agency, would ensure that these activities would obtain the proper permits, including encroachment permits, to minimize any hazards resulting from construction equipment or activities. The City of Santa Clara would also require the project owner to prepare a Traffic Control Plan to ensure localized traffic control around the project site during deliveries and construction activities that could cause hazards by obstructing roadways. Furthermore, the City of Santa Clara, as the permitting agency, would require the project owner to obtain all the required permits from Caltrans for the movement of oversized or excessive load vehicles on state roadways, and to submit to Caltrans a Transportation Management Plan, if required for the project, prior to construction. These actions would reduce any hazards from transportation of materials to and from the site and from construction activities affecting roadways.

As discussed under the "Regulatory Background" heading of this section, under Title 14, Part 77.9 of the Code of Federal Regulations, the threshold for the FAA notification 100 to 1 surface exceedance height is approximately 12 feet at the project site. Project construction would require a crane for placement of each generator. The crane would exceed 12 feet in height and would require the project owner to submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA. The FAA generally grants a Determination of No Hazard for temporary construction equipment. The City of Santa Clara, as the permitting agency for the project, would ensure consistency with this regulation and compliance with any of the FAA's conditions.

For these reasons, project construction would not increase hazards due to a geometric design feature or incompatible uses; therefore, impacts would be less than significant.

Operation and Maintenance

LESS THAN SIGNIFICANT IMPACT. The project is located approximately 100 feet west of the Norman Y. Mineta San Jose International Airport. Tall structures can potentially pose a hazard to occupants of aircraft, depending on the heights of structures and their proximity to air traffic. Incompatible uses near airports can also pose hazards to aircraft.

The highest point of the proposed project, the parapet of the stair and elevator tower, is approximately 105 feet above ground level (AGL). Figure 6 in the Santa Clara County Airport Land Use Commission's CLUP for the San Jose International Airport identifies a~~n~~ FAR Part 77 obstruction surface of 162 feet AMSL at the project site (Santa Clara County 2016). The project, with a maximum structure height of 105 feet AGL, or 148.95 feet AMSL taking into account the 43.95-foot AMSL finished floor elevation of the project site (Sequoia 2019f), would not exceed the FAA's obstruction surface of 162 AMSL. The applicant submitted a more detailed FAA obstruction analysis which also

shows that the project would not exceed any FAA obstruction surfaces (Sequoia 2019f). This analysis was reviewed and accepted by Cary Greene, Airport Planner for the City of San Jose (CEC 2019c). **Additionally, the Santa Clara County Airport Land Use Commission (ALUC) submitted a final consistency determination letter which confirms the project complies with applicable safety policies (ALUC 2021).**

However, the project site is still subject to Title 14, Part 77.9 of the Code of Federal Regulations, Construction or Alteration Requiring Notice. With a maximum project height of 105 feet AGL, the project would exceed the FAA notification 100:1 surface threshold of 12 feet at the project site. The threshold for notification is even lower when taking into account that the project site elevation is, and upon project completion would be, higher than that of the airport. As a result, the project applicant ~~would need to~~ submit**ted** Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA. **In February 2020 the FAA issued a Determination of No Hazard for the project's tallest structure (FAA 2020).** ~~**The applicant has provided this form to the FAA and submitted a copy of its receipt to staff (Sequoia 2019f). Because the project's tallest structure would be below the project site's FAR Part 77 (obstruction) surface of 162 feet AMSL, as identified in Figure 6 of the CLUP for the San Jose International Airport, and also below the more detailed obstruction surfaces identified in the applicant's FAA obstruction analysis (Sequoia 2019f), staff anticipates the FAA would issue a Determination of No Hazard.**~~ The City of Santa Clara, as the permitting agency for this project, would ensure **compliance with**~~**consistency with any conditions**~~ the FAA**'s**~~**might require determination**~~. The project is also consistent with General Plan policies concerning airport hazards and airspace protection and with CLUP policies, as discussed further in sections **5.9 Hazards and Hazardous Materials** and **5.11 Land Use** of this document.

The project's emergency diesel generators and chillers would discharge thermal plumes, high-velocity columns of hot air, during operation. Thermal plume velocities would be greatest at the discharge points, with plume velocities decreasing with increasing altitude. Plume velocities would also be highest during certain weather conditions, such as cool temperatures and calm winds. High velocity thermal plumes have the potential to affect aviation safety, and the FAA Aeronautical Information Manual identifies thermal plumes as potential flight hazards (FAA 2017). Aircraft flying through thermal plumes may experience significant air disturbances, such as turbulence and vertical shear. The FAA manual advises that, when able, a pilot should fly upwind of smokestacks and cooling towers to avoid encountering thermal plumes.

Staff uses a peak vertical plume velocity of 10.6 meters per second (m/s) (5.3 m/s average plume velocity) as a screening threshold for potential impacts to aviation. Based on a literature search, this velocity generally defines the point at which aircraft begin to experience severe turbulence. To determine whether the project's thermal plume would exceed 10.6 m/s peak velocity at altitudes where aircraft would fly, Energy Commission staff performed a thermal plume analysis of the emergency diesel generators and chillers. Staff calculated that under worst-case weather conditions, calculation methods, and operating scenarios, the vertical velocity of plumes from the emergency diesel generators would not drop below 10.6 m/s until altitudes of 86 feet AGL and below. The vertical velocity of plumes from the chillers would not drop below 10.6 m/s until altitudes of 167.5 and below. Considering that the finished site elevation of the project would be 43.95 feet AMSL (Sequoia 2019f), the vertical velocity of plumes from the emergency diesel generators would not drop below 10.6 m/s until altitudes of 129.95 feet AMSL and below, and the vertical velocity of plumes from the chillers would not drop below 10.6 m/s until altitudes of 211.45 feet AMSL and below.

The high velocity (10.6 m/s and above) portion of the worst-case plume produced by the chillers would encroach into the FAA obstruction surface (shown in Figure 6 of the CLUP) of 162 feet AMSL over the project site. However, this worst-case scenario plume would only happen infrequently during worst-case weather conditions, and aircraft are unlikely to be flying so low over the project site. Title 14, Section 91.119 of the Code of Federal Regulations states that unless necessary for takeoff or landing, the minimum safe altitudes for aircraft are 500 feet AGL for non-congested areas and 1,000 feet AGL for congested areas, such as the area around the project site (CFR 2019b). Another reason aircraft are unlikely to be flying at low altitudes over the project site is that the traffic pattern at the San Jose International Airport is much higher than 211.45 feet AMSL (942 feet AGL for single-engine aircraft and 1,442 feet AGL for multi-engine and turbine powered aircraft) (AirNav 2019). Finally, Figures 3a and 3b in the CLUP show that the project site is not under the flight tracks for the airport (Santa Clara County 2016). Because full operation of the chillers resulting in the worst-case plume scenario would only occur during hot weather, and because low altitude overflight of the site would be rare and unexpected, it is very unlikely that worst-case plume velocities would coincide with low altitude overflight of the site. As a result, impacts to aircraft from thermal plumes are expected to be less than significant. It should also be noted that while the FAA regulates the heights of physical structures, it does not regulate plumes.

As discussed above, the project would not result in hazards to aircraft from either a geometric design feature, such as structure height, or incompatible uses, including land uses or thermal plumes. The project would not increase any other hazards. For these reasons, impacts would be less than significant.

Required Mitigation Measures: None.

d. ***Would the project result in inadequate emergency access?***

Construction, Operation and Maintenance

LESS THAN SIGNIFICANT. The project would not physically block any access roads or result in traffic congestion that could significantly compromise timely access to this facility or any other location during construction, operation and maintenance. Therefore, the impact would be less than significant.

Required Mitigation Measures: None.

5.17.3 References

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Section 5.20 Mandatory Findings of Significance

MANDATORY FINDINGS OF SIGNIFICANCE		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a.	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?	☐	☒	☐	☐
b.	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

a. ***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 an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory?***

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Biological Resources. As described in **Section 5.4, Biological Resources,** with implementation of mitigation the project would not substantially degrade the quality of the environment, substantially reduce the existing habitat of any fish or wildlife species, cause any fish or wildlife population to drop below self-sustaining levels, threaten to eliminate any plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

The project site is located in a highly developed area and surrounded by commercial and industrial buildings. Therefore, the potential to degrade environmental quality is minimal, as the main project site and surrounding properties do not support natural vegetation or features that would allow for extensive wildlife foraging or occupancy. However, mature landscaping trees and shrubs provide nesting opportunities for protected migratory bird species. In addition, western burrowing owl are known to occur as year-round residents at the Norma Y. Mineta San Jose International Airport, located immediately east across De La Cruz Boulevard. This species could occur as transient or dispersing individuals during the wintering or breeding season due to their proximity to the airport as well as the presence of small mammal burrows and burrow surrogates (for example, pile of pipes and demolition debris) on the project site. Proposed mitigation measures (MM) for nesting birds and western burrowing owl would ensure that project impacts would be less than significant.

Section 5.4, Biological Resources identifies the following mitigation measures:

- **MM BIO-1**, which requires a robust environmental sensitivity training program and construction site best management practices;
- **MM BIO-2,** which requires pre-construction surveys and construction avoidance measures for burrowing owl;
- **MM BIO-3,** which requires nesting bird pre-construction surveys and implementation of appropriate nest buffers; and,
- **MM BIO-4,** which provides detailed requirements for the replacement of trees removed as part of the project.

Implementation of these mitigation measures would ensure that species habitats, populations, and natural communities would not be substantially reduced.

Cultural and Tribal Cultural Resources. Important examples of the major periods of California history or prehistory would be represented by historical, unique archaeological, or tribal cultural resources. None are known to be present in the project area. Nevertheless, the extent of proposed ground disturbance has the potential to damage unknown, buried archaeological resources in the project area. As described in **Section 5.5, Cultural and Tribal Cultural Resources**, the majority of archaeological resources aged about 5,000 years or older are buried beneath the ground surface. If these resources were to be exposed or destroyed, it would be a significant impact. The SPPE application, however, contains Applicant Proposed Measures (APMs) **CULT-1** through **CULT-3**, and **TRIBE-1**, which would prevent, minimize, and compensate for inadvertent impacts to buried cultural resources. The project therefore is unlikely to eliminate important examples of major periods of California history or prehistory and would have a less than significant impact.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The analysis of cumulative impacts can employ one of two methods to establish the effects of other past, current, and probable future projects. A lead agency may select a list of projects, including those outside the control of the agency, or, alternatively, a summary of projections. These projections may be from an adopted general plan or related planning document, or from a prior environmental document that has been adopted or certified, and these documents may describe or evaluate the regional or area-wide conditions contributing to the cumulative impact.

This Initial Study evaluates cumulative impacts using the City of Santa Clara 2010-2035 General Plan Integrated Final Environmental Impact Report (General Plan EIR) since the project would be consistent with applicable land use plans and policies. The General Plan EIR evaluated future development, as identified in the current General Plan, and concluded that the city's contribution to cumulative impacts would be less than significant or less than cumulatively considerable on Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use, and Public Services. Given this, and given that the project, with mitigation, would have less than significant impacts on these resources, the project's contribution to these impacts would not be singularly or cumulatively considerable.

Additional discussion regarding proposed mitigation measures for impacts to Biological Resources continues below. Additional discussion for Air Quality is provided below for informational purposes.

Air Quality. The proposed project would be located in Santa Clara County in the San Francisco Bay Area Air Basin (SFBAAB), under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB is designated as a nonattainment area for ozone and particulate matter with a diameter of 2.5 microns or less (called "PM2.5") under both California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The SFBAAB is also designated as nonattainment for particulate matter with a diameter of 10 microns or less (called "PM10") under CAAQS, but not NAAQS. SFBAAB's nonattainment status is attributed to the region's development history. Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. In developing thresholds of significance for air pollutants, BAAQMD considers the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. The California Environmental Quality Act (CEQA) would then require implementation of all feasible mitigation measures.

The construction emissions of the project would be lower than the thresholds of significance from the BAAQMD CEQA Air Quality Guidelines. There is no numerical threshold for fugitive dust generated during construction in BAAQMD. BAAQMD considers fugitive dust emissions to be potentially significant without incorporation of basic construction mitigation measures, also called best management practices (BMPs). The applicant proposes to incorporate the BAAQMD's recommended BMPs as **APM AQ-1** as a project design feature. Therefore, the project's construction emissions would not be cumulatively considerable during construction.

During readiness testing and maintenance, the oxides of nitrogen (NOx) emissions resulting from the standby generators are estimated to exceed the BAAQMD significance threshold of 10 tons per year. All other pollutants would have estimated emission rates below BAAQMD significance thresholds. The NOx emissions from the standby generator readiness testing and maintenance would be required to be fully offset ~~**at an offset ratio of 1.15 to 1**~~ through the permitting process with the BAAQMD. Therefore, the project emissions during readiness testing and maintenance would not be cumulatively considerable.

Applicant and staff completed criteria pollutant air quality impact analyses of potential standby generator readiness testing and maintenance at any hour of the year. These analyses found that the concentrations from the non-concurrent, one at a time, testing of the standby engine generators (as proposed by the applicant in **APM AQ-2**) did not cause any exceedance of ambient air quality standards. Therefore, the project's criteria air pollutant impacts from standby generator readiness testing and maintenance would be less than significant.

Staff concludes that, the project's emergency operations are not likely to cause exceedance of the ambient air quality standards downwind of the project.

Staff also reviewed the applicant's health risk assessment (HRA) for construction and during standby generator readiness testing and maintenance. Such operation is not likely to exceed BAAQMD significance thresholds for cancer and chronic long-term health risks. Even when all standby engine generators are operating concurrently, the acute health risks would be below BAAQMD significance

thresholds. The HRA also shows that the project would not expose sensitive receptors to substantial toxic air contaminant (TAC) concentrations.

Therefore, the project's air quality impacts would not be considered cumulatively significant.

Biological Resources. The General Plan EIR found less than significant biological resources impacts in the event of a full build-out scenario. The project site is located in a highly developed area and surrounded by commercial and industrial buildings. The potential to degrade environmental quality is minimal, as the project site and surrounding properties do not support natural vegetation or features that would allow for extensive wildlife foraging or occupancy. Implementation of **MMs BIO-1**, **BIO-2**, **BIO-3**, and **BIO-4**, identified in **Section 5.4, Biological Resources**, would reduce the proposed project's impacts to biological resources (that is, nesting birds and western burrowing owl) to a less than significant level. The project's impacts on biological resources therefore would not be cumulatively considerable.

Tribal Cultural Resources. The General Plan EIR does not specifically address impacts on tribal cultural resources. Historical resources and unique archaeological resources, as defined by CEQA, share several of the impact vulnerabilities that tribal cultural resources face, especially the effects of ground-disturbing activities. In addition, historical and unique archaeological resources can also qualify as tribal cultural resources. The suite of mitigation measures presented in the 2010–2035 General Plan EIR would reduce the severity of some impacts on tribal cultural resources. No known tribal cultural resources have been found on the project site, although ground disturbance associated with the proposed project could result in the exposure and destruction of buried, as-yet unknown archaeological resources that could qualify as tribal cultural resources. Implementation of APMs **CULT-1** through **CULT-3**, and **TRIBE-1** would prevent, minimize, or compensate for impacts on buried, tribal cultural resources. Tribal cultural resources impacts from the proposed project therefore would not be cumulatively considerable.

The General Plan EIR identified the following significant environmental impacts:

- Climate Change – Contribution to greenhouse gas (GHG) emission exceeding Santa Clara's emission reduction target for 2035;
- Noise – Increase in localized traffic noise level on roadway segments throughout Santa Clara;
- Population and Housing – Exacerbation of land use impacts arising from the jobs/housing imbalance;
- Traffic – Degradation of traffic operations on regional roadways and highways within Santa Clara of an unacceptable level of service; and
- Solid Waste – Contribution to solid waste generation beyond available capacity after 2024.

Although the project, in combination with future development in the City of Santa Clara, could conceivably have a significant cumulative impact on these environmental resources, the following discussion demonstrates how the project's contribution to these impacts would be less than cumulatively considerable.

Climate Change Impacts

Greenhouse Gas Emissions. The BAAQMD CEQA Air Quality Guidelines do not identify a GHG emissions threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and the impacts be determined in relation to meeting Assembly Bill (AB) 32 GHG reduction goals. The BAAQMD further recommends incorporation of BMPs to reduce GHG emissions during construction, as feasible and applicable. The project's construction emissions would be in conformance with state and local GHG emissions reduction goals, so impacts would be less than significant.

For readiness testing and maintenance-related emissions, the BAAQMD CEQA Air Quality Guidelines states that for stationary-source projects, the threshold to determine the significance of an impact from GHG emissions is 10,000 metric tons per year of carbon dioxide equivalent ($MTCO_2e/yr$). For commercial/industrial land use development projects, BAAQMD has adopted a numeric threshold of 1,100 $MTCO_2e/yr$ and a qualitative threshold of complying with a qualified GHG reduction strategy. The 10,000 MTCO2e/yr threshold would apply to the proposed project, which includes stationary sources that are subject to BAAQMD permitting, and the project would not be subject to the 1,100 MTCO2e/yr threshold recommended for commercial/industrial land use developments. The standby generators would not be considered to have a cumulatively considerable contribution of GHG emissions if emissions are below the BAAQMD's threshold of 10,000 $MTCO_2e/yr$. Other project-related emissions from mobile sources, area sources, energy use and water use, would not be included for comparison to this threshold, based on guidance in the BAAQMD's CEQA Guidelines. GHG impacts from all other project-related emission sources would be considered to have a less-than-significant impact if the project is consistent with the City of Santa Clara Climate Action Plan and applicable regulatory programs and policies adopted by the Air Resources Board or other California agencies, which are considered a qualified greenhouse gas reduction strategy.

The GHG emissions of the standby generators of the project are expected to be less than the 10,000 $MTCO_2e/yr$ threshold and would not be considered to be cumulatively significant. Additionally, the project would implement efficiency measures to meet California green building standards, and additional voluntary efficiency and use reduction measures. GHG emissions from energy use would be reduced by the green power mix used by Silicon Valley Power. As such, GHG emissions related to the project would not conflict with the City of Santa Clara Climate Action Plan or other plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs. Therefore, the project's GHG emissions would not be considered cumulatively significant.

Noise Impacts

The General Plan EIR anticipates significant noise impacts from the build-out of the General Plan. The significant noise impacts identified are attributed to noise associated with increased traffic. As discussed in **Section 5.17, Transportation**, traffic from the project would not have a significant impact on surrounding roadways and the transportation network. The project would contribute to vehicle trips during the construction period as trucks deliver construction materials to the project site. These trips would be temporary in nature; therefore, they would not significantly add to regular traffic. The 25 operational employees would generate minimal daily trips and would not substantially increase the traffic in the project area. Any noise impacts associated with construction and operations traffic would be less than significant. The project's contribution to this cumulative impact would not be cumulatively considerable.

Population and Housing Impacts

The General Plan EIR identified significant impacts from the build-out of the General Plan land use designations. The General Plan EIR concluded that the proposed land uses would create a regional jobs/housing imbalance, as workers who are unable to live near their employment would commute long distances from outlying areas. As described in **Section 5.14, Population and Housing**, the project would not displace any people or housing, or necessitate construction of replacement housing elsewhere. Operation of the project is anticipated to require 25 employees. Based on the proximity of the supply of operations workers, they are not likely to relocate closer to the project. The project's construction and operation workforce would not directly or indirectly induce a substantial population growth in the project area. Therefore, the project's contribution to this cumulative impact would not be cumulatively considerable.

Traffic Impacts

The General Plan EIR anticipates significant traffic impacts from the build-out of the General Plan. As discussed in **Section 5.17, Transportation**, the project would not generate significant vehicle miles traveled, and therefore would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Construction vehicle trips would be temporary and would involve short trips from the nearby Bay Area. Operation vehicle trips would be mostly generated by the 25 employees at the site and would not substantially increase the regular traffic in the project area. The project's contribution to this cumulative impact would not be cumulatively considerable.

Solid Waste Impacts

As stated in **Section 5.18, Utilities and Service Systems**, the City of Santa Clara has available landfill capacity at the Newby Island Landfill in the City of San Jose through 2024. The current landfill impacts are addressed within an ongoing Integrated Waste Management Plan of the City of Santa Clara to provide waste disposal services. The project would generate minimal operational waste as data centers typically require very little equipment turnover. Additionally, the project does not include a residential component and would not generate any increases in the supply and demand of utility services and infrastructure. Therefore, the project's contribution to this cumulative impact would not be cumulatively considerable.

c. ***Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?***

LESS THAN SIGNIFICANT IMPACT. The proposed project would not cause substantial adverse effects on human beings either directly or indirectly. The proposed project would result in temporary impacts to human health during construction, including changes to air quality, exposure to geologic hazards, noise, and exposure to hazardous materials. As discussed in **Section 5.3, Air Quality**, with implementation of **APM AQ-1** and **AQ-2**, the project would result in a less than significant impact related to human health. As discussed in **Section 5.7, Geology and Soils**, implementation of seismic design guidelines in the current California Building Code and project-specific recommendations in a final geotechnical engineering report would ensure the project would not expose people or property to significant impacts associated with geologic or seismic conditions onsite. The proposed project would result in temporary noise impacts to humans during construction and intermittently during operation. As discussed in **Section 5.13, Noise**, construction-related noise impacts would be less than significant. As discussed in **Section 5.9, Hazards and Hazardous Materials**, hazards impacts would be

less than significant. No additional impacts to human beings would occur during operation and maintenance activities.

5.20. References

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5.21 Environmental Justice

5.21.1 Setting

The United States Environmental Protection Agency (U.S. EPA) defines environmental justice (EJ) as, "the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies" (U.S. EPA 2015, page 4).

The "Environmental Justice in the Energy Commission Site Certification Process" subsection immediately below describes why EJ is part of the CEC's site certification process, the methodology used to identify an EJ population, and the consideration of California Environmental Protection Agency's (CalEPA) CalEnviroScreen data. Below that, the "Environmental Justice Project Screening" subsection presents the demographic data for those people living in a six-mile radius of the project site and a determination on presence or absence of an EJ population. When an EJ population is identified, the analyses in 10 technical areas [1] consider the project's impacts on this population and whether any impacts would disproportionately affect the EJ population. Lastly, the "Project Outreach" subsection discusses the CEC's outreach program specifically as it relates to the proposed project.

Environmental Justice in the Energy Commission Site Certification Process

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on federal agencies to achieve environmental justice as part of their mission. The order requires the U.S. EPA and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

The California Natural Resources Agency recognizes that EJ communities are commonly identified as those where residents are predominantly minorities or live below the poverty level; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices, and activities in their communities. Environmental justice efforts attempt to address the inequities of environmental protection in these communities.

An EJ analysis is composed of the following:

- Identification of areas potentially affected by various emissions or impacts from a proposed project;
- Providing notice in appropriate languages (when possible) of the proposed project and opportunities for participation in public workshops to EJ communities;
- A determination of whether there is a significant population of minority persons, or persons below the poverty level, living in an area potentially affected by the proposed project; and

[1] The 10 technical areas are Aesthetics, Air Quality, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Transportation, Cultural and Tribal Cultural Resources, and Utilities and Service Systems. Cultural and Tribal Cultural Resources considers impacts to Native American populations.

- A determination of whether there may be a significant adverse impact on a population of minority persons or persons below the poverty level caused by the proposed project alone, or in combination with other existing and/or planned projects in the area.

California law defines EJ as "the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code, § 65040.12; Pub. Resources Code, §§ 71110-71118). All departments, boards, commissions, conservancies and special programs of the Resources Agency must consider EJ in their decision-making process if their actions have an impact on the environment, environmental laws, or policies. Such actions that require EJ consideration may include:

- adopting regulations;
- enforcing environmental laws or regulations;
- making discretionary decisions or taking actions that affect the environment;
- providing funding for activities affecting the environment; and
- interacting with the public on environmental issues

CalEnviroScreen - More Information About an EJ Population

The California Communities Environmental Health Screening Tool (CalEnviroScreen) is a science-based mapping tool used by CalEPA to identify disadvantaged communities[2] pursuant to Senate Bill (SB) 535. As required by SB 535, disadvantaged communities are identified based on geographic, socioeconomic, public health and environmental hazard criteria. CalEnviroScreen identifies communities most burdened by pollution from multiple sources and most vulnerable to its effects, taking into account socioeconomic and health status of people living in those communities (OEHHA 2017, page 1).

Using data from federal and state sources, the tool consists of four components in two broad groups. The Exposure and Environmental Effects components comprise a Pollution Burden group, and the Sensitive Populations and Socioeconomic Factors components comprise a Population Characteristic Group. The four components are made up of environmental, health, and socioeconomic data from 20 indictors.

CalEnviroScreen scores are calculated by combining the individual indicator scores within each of the four components, then multiplying the Pollution Burden and Population Characteristics group scores to produce a final score (Pollution Burden X Population Characteristics = CalEnviroScreen Score). (CalEPA 2017, page 3) Each group has a maximum score of 10, thus the maximum CalEnviroScreen score is 100. Based on these scores, census tracts across California are ranked relative to one another. (OEHHA 2017, page 6). Values for the various components are shown as percentiles, which indicate the percent of all census tracts with a lower score. A higher percentile indicates a higher potential relative burden.

Table 5.21-1 lists the indicators that go into the Pollution Burden score and the Population Characteristics score to form the final CalEnviroScreen score. These indicators are used to measure factors that affect the potential for pollution impacts in communities.

[2] The California Environmental Protection Agency, for purposes of its Cap-and-Trade Program, has designated "disadvantaged communities" as census tracts having a CalEnviroScreen score at the top 25 percent (75th percentile) (CalEPA 2017)

TABLE 5.21-1 COMPONENTS THAT FORM THE CALENVIROSCREEN 3.0 SCORE

Pollution Burden	
Exposure Indicators	**Environmental Effects Indicators**
Ozone concentrations	Cleanup sites
Particulate matter (PM) 2.5 concentrations	Groundwater threats
Diesel PM emissions	Hazardous waste
Drinking water contaminants	Impaired water bodies
Pesticide use	Solid waste sites and facilities
Toxic releases from facilities	
Traffic density	
Population Characteristics	
Sensitive Populations Indicators	**Socioeconomic Factors Indicators**
Asthma emergency department	Educational attainment
Low birth-weight infants	Housing burdened low income households
Cardiovascular disease (emergency department visits for heart attacks)	Linguistic isolation
	Poverty
	Unemployment

Source: OEHHA 2017

Part of staff's assessment of how, or if, the project would impact an EJ population includes a review of CalEnviroScreen data for the project area. There are four technical areas that could have project impacts that could combine with the indicators in CalEnviroScreen: Air Quality, Hydrology and Water Quality, Hazards and Hazardous Materials, and Utilities and Service Systems.

The CalEnviroScreen indicators relevant to each of the four technical areas are:

Air Quality:

- Asthma
- Cardiovascular disease
- Diesel PM emissions
- Low birth-weight infants
- Ozone concentrations
- Particulate Matter (PM) 2.5 concentrations
- Pesticide use
- Toxic releases from facilities
- Traffic density

Hydrology and Water Quality:

- Drinking water contaminants
- Groundwater threats
- Impaired water bodies

Hazards and Hazardous Materials:

- Cleanup sites

Utilities and Service Systems

- Cleanup sites
- Hazardous waste
- Solid waste sites and facilities

When these technical areas have identified a potential project impact where an EJ population is present, they use CalEnviroScreen to better understand the characteristics of the areas where the impact would occur and ensure that disadvantaged communities in the vicinity of the proposed project have not been missed when screened by race/ethnicity and low income.

There are several limitations with CalEnviroScreen that are important to note (OEHHA 2017, pages iii, 1-3, 6, 12). Some limitations and items to note on CalEnviroScreen include the following:

- The core purpose of this tool is to characterize "impacts" of pollution in communities with respect to factors that are not routinely included in risk assessments, where "impacts," for the purposes of this tool, refers broadly to stressors that can affect health and quality of life.
- The tool is a screening tool developed to conduct statewide evaluations of community-scale impacts.
- Many factors, or stressors, contribute to a community's pollution burden and vulnerability.
- Integration of multiple stressors into a risk assessment is currently not feasible.
- The score provides a relative rather than absolute measure of pollution's impacts and vulnerabilities in California communities.
- The score provides a broad picture of the burdens and vulnerabilities that communities confront from environmental pollutants.
- A percentile does not describe the magnitude of the difference between two tracts, rather it simply tells the percentage of tracts with lower values for that indicator.
- The score is for a given tract relative to other tracts in the state.

The tool did not/does not:

- substitute for a cumulative impact analysis under the California Environmental Quality Act (CEQA).
- restrict the authority of government agencies in permit and land use decisions.
- guide all public policy decisions.
- inform the implementation of many policies, programs and activities throughout the state.

Project Outreach

As a part of the U.S. EPA's definition of environmental justice, meaningful involvement is an important part of the siting process. Meaningful involvement occurs when:

- those whose environment and/or health would be potentially affected by the decision on the proposed activity have an appropriate opportunity to participate in the decision;
- the population's contribution can influence the decision;
- the concerns of all participants involved are considered in the decision-making process; and,
- involvement of the population potentially affected by the decision on proposed project.

Energy Commission staff and the Public Advisor's Office (PAO) coordinated closely on public outreach early in the review process. The PAO outreach contact consisted of emails and phone calls to local elected officials, environmental justice organizations, local chamber of commerce, schools and school districts, community centers, daycare centers, park departments, religious organizations, local hospitals within a six-mile radius of the proposed project.

A Notice of Receipt of the Sequoia Data Center (project) Small Power Plant Exemption (SPPE) Application was docketed and mailed to the project mail list, including environmental justice organizations and similar interest groups on August 30, 2019. A Request of Agency Participation was docketed and mailed to

agencies on the project mail list on August 30, 2019. Based on current U.S. Census English fluency data for the population residing in the cities and communities within a six-mile radius of the project site, translation of the public notices was deemed appropriate. U.S. Census data also showed that of those who report they "speak English less than very well," the predominant language spoken was Chinese. Mandarin Chinese was the more commonly spoken dialect. Public notices for the project in both English and Chinese (Mandarin) were published in local newspapers on October 23 and October 21, 2019, respectively.

In accordance with the Governor's Executive Order B-10-11, the Energy Commission's Tribal Consultation Policy, the Energy Commission's Siting Regulations, and recent amendments to CEQA (i.e., AB 52), staff conducted outreach and consultation with regional tribal governments. Additional information regarding the outreach efforts and specific groups contacted can be found in **Section 5.5, Cultural and Tribal Cultural Resources**.

As described in **Section 3, Introduction to the Initial Study**, staff mailed notification of the IS/PMND to property owners and occupants within 1,000 feet of the project and 500 feet of the linears.

Environmental Justice Project Screening

Figure 5.21-1 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 EJ population based on race and ethnicity as defined in the U.S. EPA's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions* (U.S. EPA 2015).

Based on California Department of Education data in **Table 5.21-2** and presented in **Figure 5.21-2**, staff concludes that the percentage of those living in the school districts of East Side Union High, San Jose Unified, and Santa Clara Unified (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 EJ population based on a low income population as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

TABLE 5.21-2 LOW INCOME DATA WITHIN THE PROJECT AREA

School Districts in a Six-Mile Radius of the Project Site	Enrollment Used for Meals	Free or Reduced Price Meals	
Campbell Union High	8,043	1,996	24.8%
East Side Union High	**27,263**	**14,560**	**53.4%**
Fremont Union High	11,140	1,688	15.2%
Milpitas Unified	10,318	3,452	33.5%
Mountain View – Los Altos Union High	4,304	848	19.7%
San Jose Unified	**31,713**	**14,479**	**45.7%**
Santa Clara Unified	**15,509**	**6,402**	**41.3%**
Reference Geography			
Santa Clara County	272,155	102,647	37.7%

Note: Bold indicates school districts considered having an EJ population based on low income **Source:** CDE 2018.

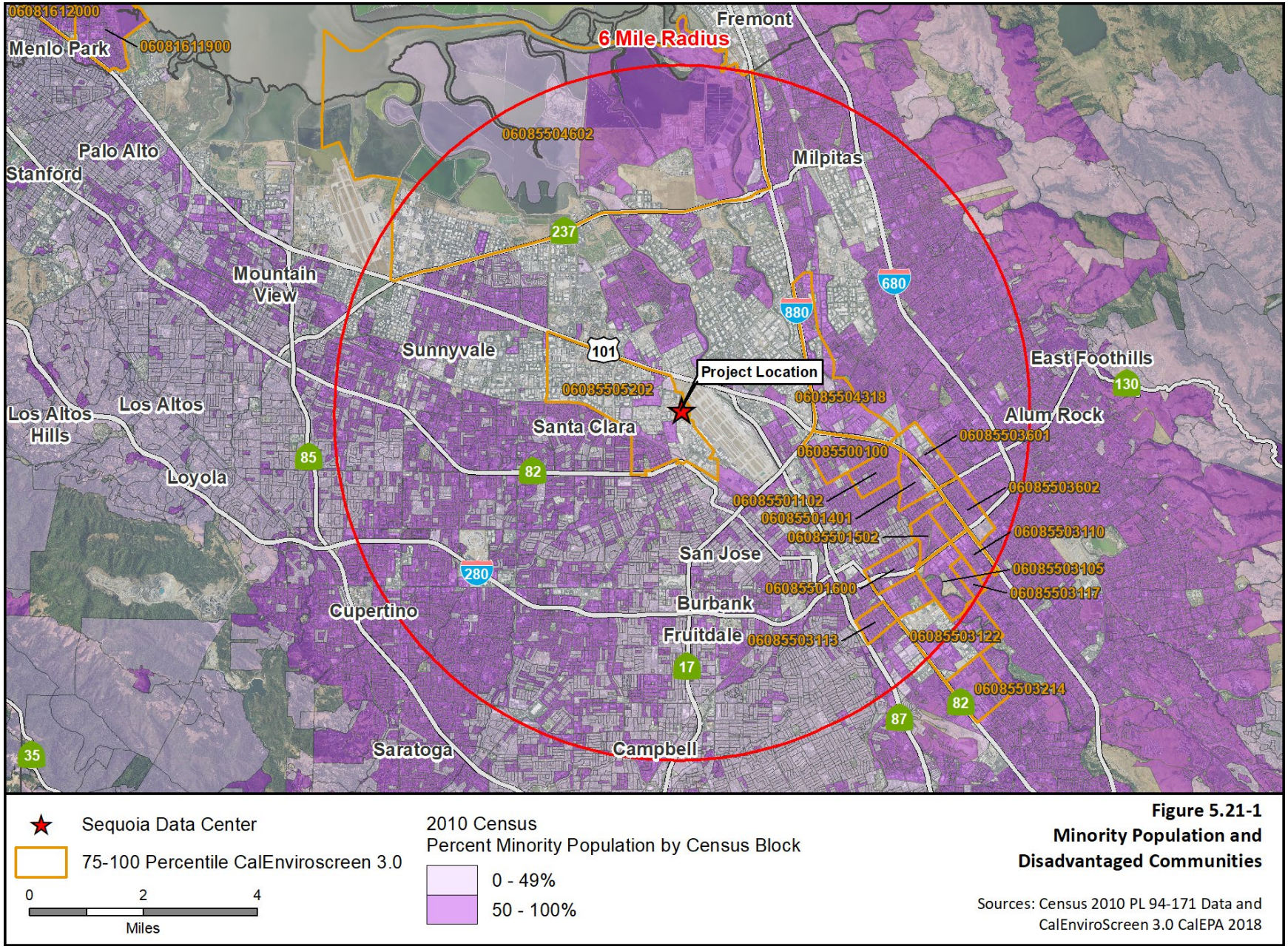

Figure 5.21-1
Minority Population and Disadvantaged Communities

Sources: Census 2010 PL 94-171 Data and CalEnviroScreen 3.0 CalEPA 2018

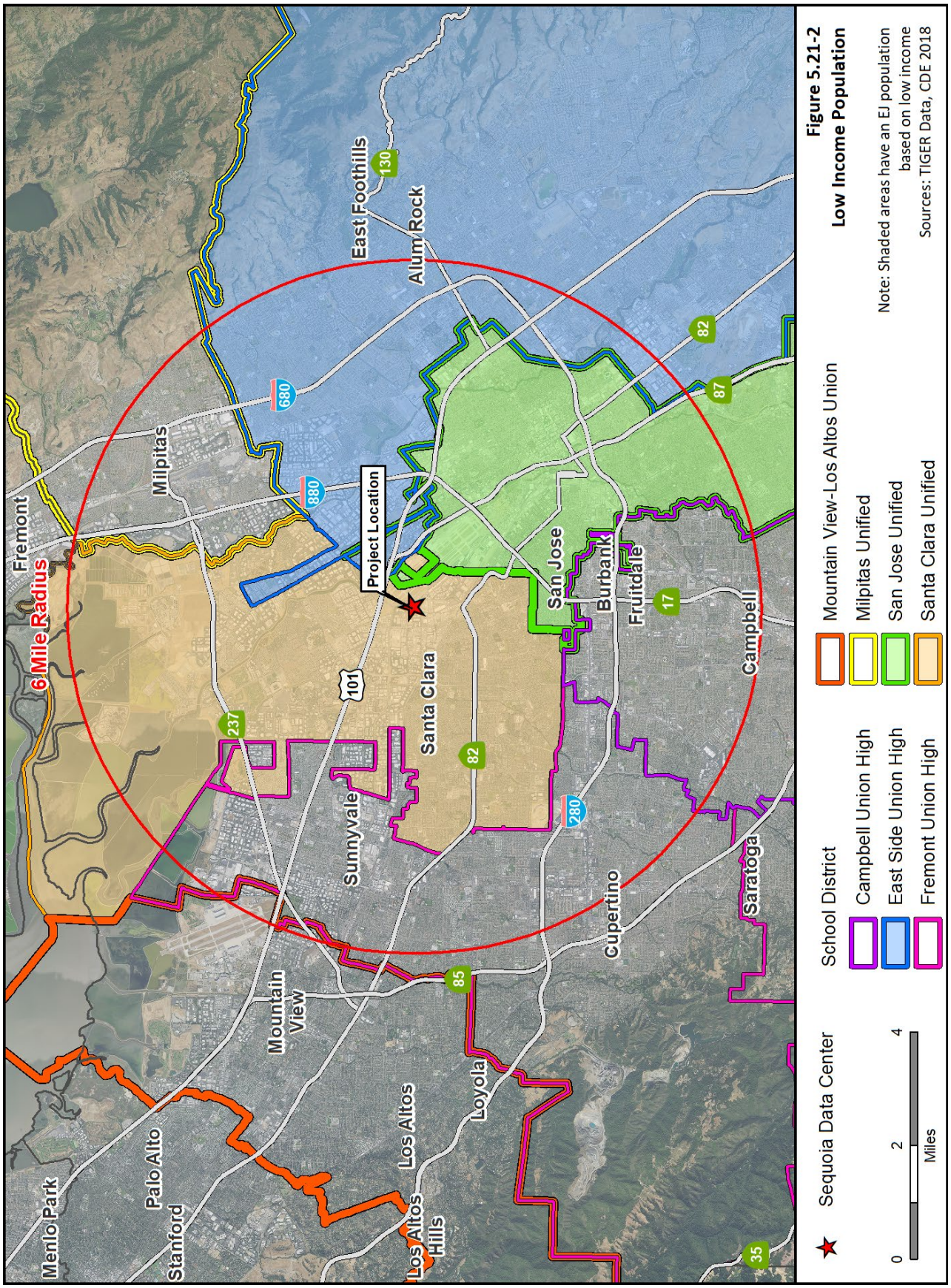

Figure 5.21-2
Low Income Population

Note: Shaded areas have an EJ population based on low income

Sources: TIGER Data, CDE 2018

CalEnviroScreen - Disadvantaged Communities

CalEnviroScreen 3.0 was used to gather additional information about the population potentially impacted by the proposed project. The CalEnviroScreen indicators are used to measure factors that affect the potential[3] for pollution impacts in communities (OEHHA 2017). Staff used CalEnviroScreen 3.0 to identify disadvantaged communities [4] in the vicinity of the proposed project and better understand the characteristics of the areas where impacts would occur (see **Figure 5.21-1**, which includes CalEnviroScreen-defined disadvantaged communities by census tracts). **Table 5.21-3** presents the CalEnviroScreen overall scores for the disadvantaged communities in the project area.

TABLE 5.21-3 CALENVIROSCREEN SCORES FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Total Population	CES 3.0 Percentile	Pollution Burden Percentile	Population Characteristics Percentile
06085503105	2,484	92.24	88.16	84.13
06085500100	6,339	88.86	93.17	70.94
06085504318	5,265	87.33	94.51	65.72
06085503601	2,992	85.64	87.13	71.82
06085503122	3,449	85.09	83.58	75.08
06085501600	6,854	84.12	77.61	78.23
06085503110	4,618	83.19	68.67	84.02
06085504602	2,144	82.28	88.30	65.33
06085501102	4,477	80.92	85.50	66.02
06085503602	4,741	80.02	50.45	92.65
06085501401	3,295	79.98	81.88	68.08
06085503113	4,760	78.67	83.66	64.57
06085503117	3,120	78.07	61.36	80.58
06085505202	5,867	76.89	88.04	57.65
06085501502	4,549	74.55	81.27	60.18

Note: Disadvantaged communities by census tract in the project's 6-mile radius. Shaded row indicate census tract where the project is located. **Source:** CalEPA 2018

Table 5.21-4 presents the CalEnviroScreen percentiles for the indicators that make up the pollution burden percentile in a six-mile radius of the project site. Where percentiles for CalEnviroScreen indicators are 90 and above, the percentile is shown in bold. These relatively higher percentiles could be seen as drivers for the census tract's identification as a disadvantaged community. There are two census tracts where the pollution burden percentile is above 90 and there are 13 census tracts where individual pollution burden indicators are in the 90 or above percentile. **Table 5.21-5** presents the CalEnviroScreen percentiles for the indicators that make up the population characteristics in a six-mile radius of the project site. There is one census tract where the population characteristics burden percentile is above 90 and there are 11 census tracts where individual population characteristic indicators are in the 90 or above percentile.

[3] It is important to note that CalEnviroScreen is not an expression of health risk and does not provide quantitative information on increases of impacts for specific sites or project. CalEnviroScreen uses the criteria of "proximity" to a hazardous waste site, a leaking underground tank, contaminated soil, an emission stack (industry, power plant, etc.) to determine that a population is "impacted". It does not address general principles of toxicology: dose/response and exposure pathways. For certain toxic chemicals to pose a risk to the public, offsite migration pathways must exist (through ingestion, inhalation, dermal contact, etc.) and contact to a certain amount – not just any amount – must exist.

[4] The California Environmental Protection Agency (CalEPA), for purposes of its Cap-and-Trade Program, has designated "disadvantaged communities" as census tracts having a CalEnviroScreen score at or above the 75th percentile (CalEPA 2017). As a comparative screening tool, it is not intended to be used as a health or ecological risk assessment for a specific area or site.

TABLE 5.21-4 CALENVIROSCREEN INDICATOR PERCENTILES FOR POLLUTION BURDEN FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Percentiles												
	Pollution Burden	Ozone	PM2.5	Diesel PM	Drinking Water	Pesticides	Toxic Release	Traffic	Cleanup Sites	Groundwater Threats	Hazardous Waste	Impaired Water Bodies	Solid Waste
06085503105	88.16	22.34	52.61	89.48	51.02	0.00	35.33	88.03	84.13	76.50	**96.90**	29.25	**95.47**
06085500100	**93.17**	16.94	52.61	**91.75**	51.02	0.00	47.78	82.20	**98.74**	**96.94**	**97.41**	41.15	**97.24**
06085504318	**94.51**	16.94	52.61	**91.74**	56.64	0.00	53.89	88.43	**99.80**	**98.39**	**99.68**	29.25	**99.79**
06085503601	87.13	16.94	52.61	87.94	51.02	0.00	43.71	82.75	83.95	84.79	89.92	29.25	**90.99**
06085503122	83.58	22.34	52.61	89.97	51.02	0.00	32.10	43.50	85.52	**94.19**	**99.28**	29.25	**99.34**
06085501600	77.61	16.94	52.61	89.00	51.02	0.00	37.32	**96.20**	53.19	**92.04**	25.76	41.15	80.55
06085503110	68.67	22.34	52.61	88.29	51.02	0.00	36.46	**97.04**	52.46	37.92	60.50	29.25	52.16
06085504602	88.30	16.94	42.86	25.50	30.45	38.47	35.40	88.24	**99.42**	**91.91**	88.36	**91.47**	**99.98**
06085501102	85.50	16.94	52.61	88.77	51.02	0.00	43.68	64.46	89.13	89.79	88.42	29.25	**92.74**
06085503602	50.45	22.34	52.61	88.79	30.45	0.00	39.87	**91.50**	35.08	59.50	25.76	15.26	0.00
06085501401	81.88	16.94	52.61	88.89	51.02	0.00	42.88	89.97	73.37	82.51	50.68	29.25	85.97
06085503113	83.66	22.34	52.61	**90.96**	51.02	0.00	32.90	75.89	53.03	**93.53**	88.84	41.15	82.86
06085503117	61.36	22.34	52.61	89.04	51.02	0.00	35.02	54.63	42.92	39.42	80.61	29.25	62.40
06085505202	88.04	16.94	52.61	89.89	13.56	0.00	57.35	71.95	**99.84**	**98.30**	**99.11**	41.15	**95.02**
06085501502	81.27	16.94	52.61	89.00	51.02	0.00	39.47	**95.94**	49.53	87.95	60.50	29.25	86.42

Note: Disadvantaged communities by census tract in the project's 6-mile radius. **Bold** indicates a percentile is 90 or above. Shaded row indicate census tract where the project is located. **Source:** CalEPA 2018

TABLE 5.21-5 CALENVIROSCREEN INDICATOR PERCENTILES FOR POPULATION CHARACTERISTICS FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Percentiles								
	Population Characteristics	Asthma	Low Birth Weight	Cardiovascular Disease	Education	Linguistic Isolation	Poverty	Unemployment	Housing Burden
06085503105	84.13	51.04	81.24	52.51	83.23	**98.87**	72.57	85.53	80.81
06085500100	70.94	70.94	49.03	65.33	71.65	69.02	59.97	59.88	68.95
06085504318	65.72	40.88	61.09	43.75	76.65	**95.35**	69.30	66.75	54.18
06085503601	71.82	56.56	64.22	51.04	77.04	88.15	77.10	56.83	59.39
06085503122	75.08	27.79	**92.16**	14.00	73.63	**97.21**	84.19	**94.29**	**92.78**
06085501600	78.23	67.96	77.16	51.84	66.46	64.34	76.32	59.12	**93.89**
06085503110	84.02	64.73	37.05	81.49	**95.14**	**98.28**	**94.12**	42.25	**93.12**
06085504602	65.33	79.87	**99.82**	34.21	47.43	66.88	34.38	48.58	48.53
06085501102	66.02	67.77	41.87	60.24	75.32	66.66	49.45	76.86	55.15
06085503602	**92.65**	74.03	87.33	71.19	82.12	**92.40**	76.57	82.00	78.41
06085501401	68.08	52.79	67.72	38.00	87.90	**92.13**	68.81	33.82	73.80
06085503113	64.57	38.27	46.74	35.49	**94.36**	81.99	85.41	42.25	**92.24**
06085503117	80.58	65.18	11.76	81.89	88.49	**97.15**	86.79	81.61	86.52
06085505202	57.65	34.95	79.87	51.84	65.90	76.00	54.83	6.94	69.61
06085501502	60.18	43.88	41.87	30.57	**91.07**	**94.16**	71.68	70.57	47.33

Note: Disadvantaged communities by census tract in the project's 6-mile radius. **Bold** indicates a percentile is 90 or above. Shaded row indicate census tract where the project is located. **Source:** CalEPA 2018.

5.21.2 Environmental Impacts and Mitigation Measures

The following technical areas discuss impacts to EJ populations: Aesthetics, Air Quality[7], Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Transportation, Cultural and Tribal Cultural Resources, and Utilities and Service Systems.

Part of staff's assessment of how, or if, the project would impact an EJ population includes a review of CalEnviroScreen data for the project area. There are three technical areas that could have project impacts that could combine with the indicators in CalEnviroScreen: Air Quality, Hazards and Hazardous Materials, and Hydrology and Water Quality. When these technical areas have identified a potential impact where an EJ population is present, CalEnviroScreen is used to better understand the characteristics of the areas where the impact would occur and ensure that disadvantaged communities in the vicinity of the proposed project have not been missed when screened by race/ethnicity and low income.

Aesthetics

LESS THAN SIGNIFICANT IMPACT. A disproportionate impact pertaining to Aesthetics to an EJ population may occur if a project is in proximity to an EJ population and the following:

- The project, if in an "urbanized area" per Public Resources Code, section 21071, conflicts with applicable zoning and other regulations governing scenic quality.
- The project, if in a non-urbanized area, substantially degrades the existing visual character or quality of the public view of the site and its surroundings.
- The project creates a new source of substantial light and glare that would adversely affect day or nighttime views in the area.

The project is in an urbanized area. The project conforms to the applicable city zoning and other regulations governing scenic quality inclusive of a minor modification in allowable height. It would be visually consistent with the existing character of the site and surrounding area, and the larger cityscape.

Staff review of GIS data and viewing aerial and street view images concludes the nearest EJ population would have no to low visibility of the project due to the existence of aboveground landscape elements (buildings, structures, earthworks, trees, and so forth) obstructing or obscuring the public view of it. The project would not have a disproportionate effect to an EJ population and would have a less than significant effect.

Air Quality

LESS THAN SIGNIFICANT IMPACT. Ambient air quality standards (AAQS) are established to protect the health of even the most sensitive individuals in our communities, which includes the EJ population, by defining the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health. Both the California Air Resources Board and the U.S. EPA are authorized to set ambient air quality standards. Staff identified the potential public health impacts (that is, cancer and non-cancer health effects) that could affect the EJ population represented in **Figures 5.21-1** and **5.21-2**. 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.

7 Public Health issues discussed under Air Quality

The potential construction and standby generator readiness testing and maintenance risks are associated with exposure to diesel particulate matter, total organic gases in diesel exhaust, and evaporative and exhaust total organic gases from gasoline vehicles. The toxic air contaminants from total organic gases include 1,3-Butadiene, Acetaldehyde, Benzene, Ethylbenzene, Formaldehyde, n-Hexane, Methanol, Methyl Ethyl Ketone, Napthalene, Propylene, Styrene, Toluene, and Xylene.

Staff identified the potential air quality impacts (that is, ozone and particulate matter [PM2.5] with a diameter less than or equal to 2.5 micrometers) that could affect the EJ population represented in **Figures 5.21-1** and **5.21-2**. Staff also examined individual contributions of indicators in CalEnviroScreen that are relevant to air quality (see **Table 5.21-1**).

Staff concluded that construction, readiness testing and maintenance, and any emergency operation as defined in the Air Quality section of this Initial Study are not likely to cause significant adverse impacts. The project would not cause significant adverse direct or indirect public health impacts from the project's toxic air emissions and no mitigation is needed. Likewise, the project would not cause disproportionate public health impacts on sensitive populations, such as the EJ population represented in **Figures 5.21-1** and **5.21-2**.

Ozone Impacts

Ozone is known to cause numerous health effects, which can potentially affect EJ communities as follows:

- lung irritation, inflammation and exacerbation of existing chronic conditions, even at low exposures (Alexis et al. 2010, Fann et al. 2012, Zanobetti and Schwartz 2011);
- increased risk of asthma among children under 2 years of age, young males, and African American children (Lin et al., 2008, Burnett et al., 2001); and,
- higher mortality, particularly in the elderly, women and African Americans (Medina- Ramon, 2008).

Even though ozone is not directly emitted from emission sources such as Sequoia Backup Generator Facility (SBGF), precursor pollutants that create ozone such as nitrogen oxides (NOx) and volatile organic compounds (VOCs) are expected to be emitted. ~~**Before obtaining a permit to construct from the Bay Area Air Quality Management District (BAAQMD) for the SBGF, the applicant will be required to purchase NOx emission reduction credits (ERCs) that would come from within the San Francisco Bay Area Air Basin. The applicant has stated it would purchase ERCs from the market to offset emissions from readiness testing and maintenance.**~~ **The NOx emissions from the standby generator readiness testing and maintenance would be required to be fully offset through the permitting process with the Bay Area Air Quality Management District (BAAQMD).** The BAAQMD would determine the **final details of the** quantity and ~~**location**~~ **source** of **the NOx emission reduction credits (**ERCs**)** required during the permitting process.

For CalEnviroScreen, the air monitoring data used in this indicator have been updated to reflect ozone measurements for the years 2011 to 2013. CalEnviroScreen 3.0 uses the average daily maximum ozone concentration. According to CalEnviroScreen data, ozone concentrations in each census tract are ordered by ozone concentration values, and then are assigned a percentile based on the statewide distribution of values. Results are shown in **Table 5.21-4**. The percentile for nine out of the fifteen census tracts are the same at 16.9, and six of the fifteen census tracts are the same at 22.3. This means ozone levels in these census tracts are higher than just 16.9 percent and 22.3 percent, respectively of the census tracts in

California. Another way to look at the data is that 83.1 and 77.7 percent, respectively, of all California census tracts have higher ozone levels than these near SBGF.

Census tract 6085505202 was at the 16.9 percentile in the ozone category (see **Table 5.12-4**). This indicates that ozone in these census tracts are below the statewide average in terms of relative air quality as it relates to ozone. This indicates that these communities are not exposed to high ozone concentrations as compared to the rest of the state.

The project would not be expected to contribute significantly to the regional air quality as it relates to ozone. The project would be required to comply with ambient air quality standards for NOx and VOCs, which are precursor pollutants that create ozone during the construction and testing and maintenance phases. The project would use best management practices (BMPs) during construction, which would reduce NOx and VOCs during construction. The project is also expected to be below ambient air quality standards during readiness testing and maintenance. NOx emissions resulting from readiness testing and maintenance ~~are~~ **would be** above BAAQMD's annual threshold of significance, but **they would be fully offset through the permitting process with BAAQMD.** ~~the applicant will be required to offset NOx emissions using ERCs.~~ VOC emissions are below the BAAQMD's threshold of significance and the applicant will not be required to offset VOC emissions. The project would therefore be expected to not contribute significantly to regional ozone concentrations, relative to baseline conditions. The project's air quality impacts, as it related to ozone and ozone precursors would be less than significant for the census tract of concern and the general population.

Staff concludes that the project would not expose sensitive receptors to substantial ozone precursor concentrations.

PM2.5 Impacts

Particulate matter (PM) is a complex mixture of aerosolized solid and liquid particles including such substances as organic chemicals, dust, allergens and metals. These particles can come from many sources, including cars and trucks, industrial processes, wood burning, or other activities involving combustion. The composition of PM depends on the local and regional sources, time of year, location and weather.

PM2.5 refers to particles that have a diameter less than or equal to 2.5 micrometers. PM2.5 is known to cause numerous health effects, which can potentially affect EJ communities. Particles in this size range can have adverse effects on the heart and lungs, including lung irritation, exacerbation of existing respiratory disease, and cardiovascular effects.

For CalEnviroScreen, the indicator PM2.5 is determined by the annual mean concentration of PM2.5 (average of quarterly means), averaged over three years (2011-2013). According to CalEnviroScreen data, PM2.5 concentrations in each census tract are ordered by PM2.5 concentration values, and then are assigned a percentile based on the statewide distribution of values and are shown in **Table 5.21-4**. The percentiles are 52.6 for all census tracts except 6085504602, which was at the 42.8 percentile.

Census tract 6085505202 was at the 52.6 percentile in the PM2.5 category (see **Table 5.12-4**). This indicates that particulate matter concentrations in this census tract are higher than 52.6 percent of tracts statewide. This indicates that these communities are exposed to average PM2.5 concentrations compared to the rest of the state.

The project would not be expected to contribute significantly to the regional air quality related to PM2.5. The project would be required to comply with ambient air quality standards for particulate matter during construction, testing and maintenance of the standby generators. The project would use best management practices (BMPs) during construction, which would reduce particulate matter during construction. The project is also expected to be below ambient air quality standards during readiness testing and maintenance. The project would therefore be expected to not contribute significantly to regional PM2.5 concentrations, relative to baseline conditions. The project's air quality impacts, as it related to PM2.5 would be less than significant for the census tract of concern and the general population.

Staff concludes that the project would not expose sensitive receptors to substantial PM2.5 concentrations.

NO_2 Impacts

As stated in **Section 5.3**, **Air Quality**, staff did an additional assessment of other criteria pollutant impacts. Specifically, staff completed an independent modeling analysis for the standby generator readiness testing and maintenance activities to determine NO_2 impacts. Staff's conservative 1-hour NO_2 modeling results indicate that the SBGF's readiness testing and maintenance would not cause adverse NO_2 impacts to the EJ population. **The project is now proposed with Tier 4 emission controls. Emissions and associated impacts from the engines would be even lower than the Tier 2 emissions and impacts staff analyzed.** Staff concludes that the project would not expose sensitive receptors to substantial criteria pollutant concentrations.

Diesel PM

This indicator represents how much diesel PM is emitted into the air within and near the census tract. The data are from 2012 California Air Resources Board's emission data from on-road vehicles (trucks and buses) and off-road sources (ships and trains, for example). Among these fifteen census tracts, three are higher than the 90th percentile. The highest percentiles being 91.75 and 91.74 (in census tracts 6085500100 and 6085504318, respectively), meaning these two are higher than 91.75 and 91.74 percent of the census tracts in California. However, according to the results of the health risk assessment conducted for this project, impacts associated with diesel PM from the proposed project construction and operation activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to the diesel PM levels in the disadvantaged communities.

Pesticide Use

Specific pesticides included in the Pesticide Use category were narrowed from the list of all registered pesticides in use in California to focus on a subset of 70 chemicals that are filtered for hazard and volatility for the years 2012-2014 collected by the California Department of Pesticide Regulation. Only pesticides used on agricultural commodities are included in the indicator.

Census tract 6085505202 was at 0 percent in the Pesticide Use category (see **Table 5.12-4**). This indicates that pesticide use in these census tracts are below the statewide average in terms of pesticide use. This indicates that these communities are not exposed to high pesticide concentrations as compared to the rest of the state.

Toxic Releases from Facilities

This indicator represents modeled air concentrations of chemical releases from large facility emissions in and near the census tract. The U.S. EPA provides public information on the amount of chemicals released into the environment from many facilities. This indicator uses the modeled air concentration and toxicity of the chemical to determine the toxic release score. The data are from 2011-2013.

Census tract 6085505202 was at the 57.3 percentile in the Toxic Release from Facilities category (see **Table 5.12-4**). This indicates that toxic release from facilities threats in this census tract is higher than 57.3 percent of tracts statewide. This indicates that these communities are average for exposure to toxic releases from facilities compared to the rest of the state.

Traffic Density

This indicator represents the sum of traffic volumes adjusted by road segment length. It is calculated by dividing the traffic volumes by the total road length within 150 meters of the census tract boundary. It is not a measure of level of service on roadways. The data are from 2013. Among the fifteen census tracts of staff's focus, four are higher than the 90th percentile. The highest one is 97.04 (in census tract 6085503110), meaning it is higher than 97.04 percent of the census tracts in California. Traffic Density is related to the diesel PM emitted from diesel-fueled vehicles. However, according to the results of the health risk assessment conducted for the project, impacts associated with diesel PM from the proposed project construction and operation activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to the diesel PM-related traffic density in the disadvantaged communities.

Asthma ER Visits

This indicator is a representation of an asthma rate. It measures the number of emergency room visits for asthma per 10,000 people over the years 2011 to 2013. The information was collected by the California Office of Statewide Health Planning and Development.

Census tract 6085505202 was at the 34.9 percentile in the Asthma category (see **Table 5.12-4**). This indicates the number of emergency room visits for asthma per 10,000 people over the years 2011 to 2013 are higher than 34.9 percent of tracts statewide. This indicates that these communities have a below average number of emergency room visits due to asthma compared to the rest of the state.

Low Birth Weight Infants

This indicator measures the percentage of babies born weighing less than 2500 grams (about 5.5 pounds) out of the total number of live births over the years 2006 to 2012. The information was collected by the California Department of Public Health. Among these fifteen census tracts, Census Tract 6085504602 has the highest potential relative burden. The low birth weight percentile for this census tract is 100, meaning the percent low birth weight is higher than all other census tracts in California. In this census tract the total population is of 2,144 people, with 10.38 percent of births were of low birth weight. Note that this tract has a relatively small population (94% of the California census tracts have a larger population than this tract) such that small changes in a particular metric like birth weight can skew the results compared to other tracts. Staff's health risk assessment was based on a highly conservative health-protective methodology that accounts for impacts on the most sensitive individuals in a given population. According to the results of the assessment, the risk of the nearest sensitive receptor (i.e. Maximally Exposed Sensitive Receptor) is below health-based thresholds. Therefore, the toxic emissions from the project

would not cause significant health effects for the low birth weight infants in these disadvantaged communities or have a significant cumulative contribution to these disadvantaged communities.

Cardiovascular Disease

This indicator represents the rate of heart attacks. It measures the number of emergency department visits for acute myocardial infarction (or heart attack) per 10,000 people over the years 2011 to 2013.

Census tract 6085505202 was at the 51.8 percentile in the Cardiovascular Disease category (see **Table 5.12-4**). This indicates the number of emergency department visits for acute myocardial infarction (or heart attack) per 10,000 people over the years 2011 to 2013 is higher than 51.8 percent of tracts statewide. This indicates that these communities have an average number of emergency department visits for acute myocardial infarction (or heart attack) compared to the rest of the state.

Cultural and Tribal Cultural Resources

NO IMPACT. Staff did not identify any Native American environmental justice populations that either reside within 6 miles of the project or that rely on any subsistence resources that could be impacted by the proposed project.

Hazards and Hazardous Materials

LESS THAN SIGNIFICANT IMPACT. 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. A disproportionate impact upon the EJ population resulting from the planned storage and use of hazardous materials on the site is extremely low. Diesel fuel to run the emergency generators is the hazardous material that the project site would have in greatest quantity. The total quantity would be divided up and stored in many separate double-walled ~~containers~~**fuel tanks** (one for each generator) 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.

Hydrology and Water Quality

LESS THAN SIGNIFICANT IMPACT. A disproportionate hydrologic or water quality impact on an EJ population could occur if the project would contribute to impairment of drinking water, exacerbate groundwater contamination threats, or contribute pollutants to impaired water bodies.

Since the overall CalEnviroScreen score reflects the collective impacts of multiple pollutants and factors, staff examined the individual contributions to indicators as they relate to hydrology and water quality. The pollutants of concern in this analysis are those from construction and operational activities. The CalEnviroScreen scores for the disadvantaged community census tracts in a 6-mile radius of the project (see **Figure 5.21-1**) are presented in **Environmental Justice Table 5.12-4** for each of the following environmental stressors that relate to hydrology and water quality: Drinking Water Contaminants, Groundwater Threats, and Impaired Water Bodies. The percentile for each disadvantaged census tract reflects its relative ranking among all of California's census tracts. A disproportionate hydrology or water quality impact on an EJ population could occur if a project introduces an additional pollutant burden to a disadvantaged community.

CalEnviroScreen 3.0 assigns a score to each type of stressor. To assess the impact of a stressor on population within a census tract, the score is assigned a weighting factor that decreases with distance from the census tract. For stationary stressors related to hydrology or water quality, the weighting factor diminishes to zero for distances larger than 1,000 meters (0.6 mile). As **Environmental Justice Figure 5.21-1** shows, all but one of the assessed census tracts are more than 1,000 meters away from the project. The only tract that is within 1,000 meters of the proposed project site is tract 6085505202—the tract in which the project would be located. Therefore, this analysis focuses on that tract.

Drinking Water Contaminants

Low income and rural communities, particularly those served by small community water systems, can be disproportionately exposed to contaminants in their drinking water. CalEnviroscreen 3.0 aggregates drinking water quality data from the California Department of Public Health, the United States Environmental Protection Agency, and the California State Water Resources Control Board (SWRCB). The score provided by the Drinking Water Contaminant metric calculation is intended to rank water supplies relative to their history or likelihood to provide water that exceeds drinking water standards.

Census tract 6085505202 was at the 14 percentile in the Drinking Water Contaminants category (see **Environmental Justice Table 5.12-4**). This indicates that drinking water contamination threats in this census tract is very low. This suggests that this community is not expected to have a high level of exposure to contaminants through drinking water.

The project would not be expected to contribute significantly to drinking water source degradation. The project would be required to comply with the Clean Water Act (CWA) by controlling the discharge of pollutants during its construction and operation phases. The project would implement modern operational phase storm water and containment controls that would improve upon the site's potential to release contaminants to the environment. The project would therefore be expected to provide a long-term drinking water quality benefit relative to baseline conditions. The project's hydrology and water quality impacts would be reduced to less than significant for the census tract of concern and the general population.

Groundwater Threats

Common groundwater pollutants found at leaking underground storage tank (LUST) and cleanup sites in California include gasoline and diesel fuels, chlorinated solvents and other volatile organic compounds (VOCs) such as benzene, toluene, and methyl tert-butyl ether (MTBE); heavy metals such as lead, chromium and arsenic; polycyclic aromatic hydrocarbons (PAHs); persistent organic pollutants like polychlorinated biphenyls (PCBs); DDT and other insecticides; and perchlorate. CalEnviroscreen 3.0 aggregates data from the SWRCB's GeoTracker website about groundwater threats. The score provided by the Groundwater Threat metric calculation is intended to rank the relative risk of environmental contamination by groundwater contamination, within each census tract.

Census tract 6085505202 was at the 98 percentile in the Groundwater Threat category (see **Environmental Justice Table 5.12-4**). This indicates that groundwater contamination threats in this census tract are within the top 10 percent of tracts statewide. This indicates that this community is located alongside a high relative proportion of groundwater threats.

The project would not be expected to contribute significantly to groundwater degradation, relative to existing conditions. The project would be required to comply with the CWA by controlling the discharge

of pollutants during its construction and operation phases. The project would implement modern operational phase storm water and containment controls that would improve upon the site's potential to release contaminants to groundwater. The project would therefore be expected to provide a long-term drinking groundwater quality benefit relative to baseline conditions. The project's hydrology and water quality impacts would be reduced to less than significant for the census tract of concern and the general population.

Impaired Water Bodies

Rivers, lakes, estuaries and marine waters in California are important for many different uses. Water bodies used for recreation may also be important to the quality of life of nearby residents if subsistence fishing is critical to their livelihood. Water bodies also support abundant flora and fauna. Changes in aquatic environments can affect biological diversity and overall health of ecosystems. Aquatic species important to local economies may be impaired if the habitats where they seek food and reproduce are changed. Additionally, communities of color, low-income communities, and tribes generally depend on the fish, aquatic plants, and wildlife provided by nearby surface waters to a greater extent than the general population. CalEnviroscreen 3.0 aggregates data from the SWRCB's Final 2012 California Integrated Report (CWA Section 303(d) List / 305(b) Report). The score provided by the Impaired Water Bodies metric calculation is intended to rank the relative risk of impaired water bodies, within each census tract.

Census tract 6085505202 was at the 41 percentile in the Groundwater Threat category (see **Environmental Justice Table 5.12-4**). This indicates that Impaired Water Bodies in these census tracts are near the statewide average in terms of relative abundance. This indicates that these communities are not expected to contain a high abundance of impaired water bodies.

The project would not be expected to contribute significantly to the impairment of local or regional water bodies. The project would be required to comply with the CWA by controlling the discharge of pollutants during its construction and operation phases. The project would implement modern operational phase storm water and containment controls that would improve upon the site's potential to release contaminants to the environment. The project would therefore be expected to provide a long-term benefit to local and regional water bodies, relative to baseline conditions. The project's hydrology and water quality impacts would be reduced to less than significant for the census tract of concern and the general population.

Land Use and Planning

LESS THAN SIGNIFICANT IMPACT. The project's floor area ratio (FAR) would exceed the maximum FAR for the zoning district. However, as is typical of data center projects, the project would have a low employment density relative to the size of its data center building. With its low employment density, the project would not cause the types of environmental impacts sometimes attributed to projects with high employment densities due to a commensurate increase in vehicle miles traveled. The project would not cause environmental impacts associated with the FAR exceedance, including no disproportionate impacts on an EJ population.

The project site is in an urbanized area that includes various industrial and commercial uses, and the project is consistent with other, similar land uses in the surrounding area. The proposed project is in an area with the General Plan land use designation of Heavy Industrial, which specifically allows data centers. The project site is in the MH, Heavy Industrial zoning district. The data center would have a typical height

of 85 feet from adjacent grade. Maximum permitted building height in the MH zoning district is 70 feet; therefore, the applicant is requesting a minor modification to the regulation to allow the height exceedance. With granting of the minor modification, the project would conform to zoning. The added height for mechanical equipment screening at the top of the data center building would also conform to the City of Santa Clara's Special Height Regulations. As discussed in section **5.11 Land Use and Planning**, the project would not conflict with land use plans or policies such that significant environmental impacts would occur. The overall impact is less than significant, including potential disproportionate impacts on an EJ population.

Noise

LESS THAN SIGNIFICANT IMPACT. 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. The project site is within an area having an EJ population. Because the area surrounding the site is primarily industrial and commercial, and the nearest residences are approximately 0.7-mile away from the project site, potential impacts would not be disproportionate.

Construction activities would increase existing noise levels at the adjacent commercial and industrial land uses, but they would be temporary and intermittent. In addition, construction activities would not occur on Sundays and holidays, in compliance with the Santa Clara City Code, Section 9.10.230. Also, the loudest noise levels from construction and demolition activities are not expected to be higher than the existing ambient noise levels at the closest residential area. Therefore, potential noise effects related to project construction would not result in a significant noise impact on the area's population, including the EJ population.

The operational noise levels would comply with the city's noise limits and would not elevate the existing ambient noise levels at the nearest residences. Thus, the impacts would be less than significant for all the area's population, including the EJ population.

Population and Housing

LESS THAN SIGNIFICANT IMPACT. Because the study area used in this analysis for impacts related to population influx and housing supply includes Campbell, Cupertino, Milpitas, San Jose, Santa Clara, Sunnyvale, and Santa Clara County, staff considered the project's population and housing impacts on the EJ population living in these geographic areas.

The potential for population and housing impacts is predominantly driven by the temporary influx of non-local 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 the project would not displace any residents or remove any housing, there would be no disproportionate impact to EJ populations from this project.

Transportation

LESS THAN SIGNIFICANT IMPACT. Significant reductions in transportation options may 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. For the project, all transportation impacts, including impacts to alternative transportation, would be less than significant, and therefore would cause less than significant impacts to EJ populations. Likewise, transportation impacts would not be disproportionate.

Utilities and Service Systems

LESS THAN SIGNIFICANT IMPACT. A disproportionate utilities and system services impact on an EJ population could occur if the project would contribute to or exacerbate the effects of cleanup sites, hazardous waste and solid waste sites and facilities.

Since the overall CalEnviroScreen score reflects the collective impacts of multiple pollutants and factors, staff examined the individual contributions to indicators as they relate to wastes addressed under utilities and system services. The wastes of concern in this analysis are those from construction and operational activities. The handling and disposal of each type of waste depends on the hazardous ranking of its constituent materials. Existing laws, ordinances, regulations, and standards ensure the desired handling and disposal of waste materials without potential public or environmental health impacts. The CalEnviroScreen percentiles for the disadvantaged community census tracts in a 6-mile radius of the project (see **Environmental Justice Figure 5.21-1**) are presented in **Environmental Justice Table 5.21-4** for each of the following environmental stressors that relate to waste management: cleanup sites, hazardous waste and solid waste sites and facilities. The percentile for each disadvantaged census tract reflects its relative ranking among all of California's census tracts. A disproportionate waste management impact on an EJ population could occur if project wastes impacted the disadvantaged community.

CalEnviroScreen 3.0 assigns a score to each category of stressors. To assess the impact of a stressor on population within a census tract, the score is assigned a weighting factor that decreases with distance from the census tract. For stationery stressors, the weighting factor diminishes to zero for distances larger than 1,000 meters (0.6 mile). As **Environmental Justice Figure 5.21-1** shows, all but one of the assessed census tracts are more than 1,000 meters away from the project. The only tract that is within 1,000 meters of the proposed project site is tract 6085505202—the tract in which the project would be located. Therefore, this analysis focuses on that tract.

Cleanup Sites

This indicator is calculated by considering the number of cleanup sites including Superfund sites on the National Priorities List (NPL), the weight of each site, and the distance to the census tract. Sites undergoing cleanup actions by governmental authorities, or by property owners, have suffered environmental degradation due to presence of hazardous substances. Of primary concern is the potential for people to come in contact with these substances.

The percentile score in the cleanup sites category for the only census tract within 1,000 meters of the project site (tract 6085505202) is 99.84 (see Table 4). The interpretation is that contamination threats due to the presence of cleanup sites in that census tract are among the highest of all tracts statewide. This is an indication that the communities within that tract are located alongside a high relative proportion of cleanup sites.

Past contamination at the project site would be remediated by the current owner in accordance with regulatory requirements that would ensure there would be no impacts to on- or off-site receptors. In addition, the applicant would have to comply with appropriate laws, ordinances, regulations, and standards that would require additional cleanup of contaminated soils and groundwater that might be encountered during construction and operation activities. Therefore, the project would not be expected to contribute significantly to effects from cleanup sites for the relevant census tract and for the general population, nor would any impacts be disproportionate to the EJ population in the relevant census tract.

Hazardous Waste

This indicator is calculated by considering the number of permitted treatment, storage and disposal Facilities (TSDFs) or generators of hazardous waste, the weight of each generator or site, and the distance to the census tract. Most hazardous waste must be transported from hazardous waste generators to permitted recycling, treatment, storage, or disposal facilities (TSDF) by registered hazardous waste transporters. Most shipments must be accompanied by a hazardous waste manifest. There are widespread concerns for both human health and the environment from sites that serve for the processing and disposal of hazardous waste. Newer facilities are designed to prevent the contamination of air, water, and soil with hazardous material. However, even newer facilities may negatively affect perceptions of surrounding areas in ways that have economic, social, and health impacts.

The percentile score in the hazardous waste category for the only census tract within 1,000 meters of the project site is 99.11. The interpretation is that threats related to hazardous waste generation and facilities in this census tract is among the worst of all tracts statewide, meaning that the communities in that tract are located alongside sites with a high relative proportion of hazardous waste generators and facilities.

The project would not be expected to contribute significantly to hazardous waste generation or to the number or size of facilities handling hazardous waste processing, nor would the impacts on the EJ population be disproportionate. Further, the project would be required to comply with appropriate laws, ordinances, regulations, and standards to control storage and disposal of hazardous waste during its construction and operation phases. The project would implement modern operational phase controls to prevent or reduce the generation of hazardous wastes and to dispose of them in a manner that would minimize impacts to the environment both during project construction and operation. The project's impacts related to hazardous waste would be less than significant and the impacts on the EJ population would not be disproportionate for the relevant census tract and the general population.

Solid Waste Sites and Facilities

This indicator is calculated by considering the number of solid waste sites and facilities including illegal sites, the weight of each, and the distance to a census tract. Newer solid waste landfills are designed to prevent the contamination of air, water, and soil with hazardous materials. However, older sites that are out of compliance with current standards or illegal solid waste sites may degrade environmental conditions in the surrounding area and pose a risk of exposure. Other types of facilities, such as composting, treatment, and recycling facilities may raise concerns about odors, vermin, and increased traffic.

The percentile score in the solid waste sites and facilities category for the only assessed census tract within 1,000 meters is 95 (see **Environmental Justice Table 5.21-4**). The interpretation is that the number and type of facilities within or nearby this census tract is in the upper 10 percent of the census tracts in

California. This also indicates that environmental deterioration due to the presence of solid waste facilities in that census tract is within the top 10 percent of tracts statewide.

Solid waste generated during construction and operation of the project would be segregated, where practical, for recycling, and disposed where there is adequate capacity for disposal of nonhazardous waste. Also, the project would be required to develop and implement plans that would ensure proper disposal of nonhazardous waste at appropriately licensed facilities. The applicant would use solid wastes sites or facilities that are verified to be in compliance with current laws, ordinances, regulations, and standards. In addition, there would be no increase of solid waste generators and facilities in the area due to project construction or operation because there is adequate space for disposal of waste from the project. Therefore, there would be no impact due to solid waste facilities that would disproportionately impact an EJ community in the relevant census tract.

List of Preparers and Contributors

The following are a list of preparers and contributors to the **Section 5.21, Environmental Justice**:

Ellen LeFevre	General Environmental Justice information, CalEnviroScreen information, Environmental Justice screening, public outreach, CalEnviroScreen project screening, and Population and Housing impact analysis.
Mark Hamblin	Aesthetics impact analysis.
Hui-An (Ann) Chu, Jacquelyn Record, Brewster Birdsall	Air Quality (including public health) impact analysis.
Gabriel Roark	Cultural and Tribal Cultural Resources impact analysis
Brett Fooks	Hazards and Hazardous Materials impact analysis.
Abdel-Karim Abulaban and Mike Conway	Hydrology and Water Quality impact analysis.
Jeanine Hinde	Land Use and Planning impact analysis.
Abdel-Karim Abulaban	Noise and Utilities and Service Systems impact analysis.
Andrea Koch	Transportation impact analysis.

5.21.3 References

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DECLARATION OF
Brett Fooks

I, Brett Fooks, declare as follows:

1. I am employed by the California Energy Commission as a Senior Mechanical Engineer in the Siting, Transmission and Environmental Protection Division.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I oversaw preparation of staff testimony for the Sequoia Data Center Initial Study in the technical area(s) of **Hazards/Hazardous Materials**. This testimony reflects my independent analysis of the Application for Small Power Plant Exemption and related materials, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 26, 2021 Signed: Brett Fooks

At: Sacramento, California

-BRETT FOOKS, P.E.

MECHANICAL ENGINEER

PROFESSIONAL EXPERIENCE

California Energy Commission - STEP **Sacramento, CA** **2/2014 - Present**

The Commission ensures that energy facilities (power plants) are permitted in an acceptable manner. The STEP division prepares environmental documentation for the Commission as required by the California Environmental Quality Act (CEQA).

MECHANICAL ENGINEER

Provide independent engineering analysis for various technical areas with an emphasis on hazardous materials management, worker safety, & fire protection.

- Review, analyze and prepare engineering analysis for hazardous materials management, fire protection, and worker safety for gas-fired power plants.
- Provide written and oral expert witness testimony at commission hearings.
- Conduct power plant inspections during construction and operational phases.
- Investigate accident, fire, and hazardous materials incidents at licensed power plants.

Capital Engineering Consultants, Inc. **Rancho Cordova, CA** **6/2004 – 2/2014**

A leader in mechanical engineering design in Northern California since 1947 specializing in areas including K-12 Education, Higher Education, Civic and Justice, and Healthcare.

SENIOR ENGINEER, ASSOCIATE

Manage the design, project specification, calculations and cost estimations for new and renovated construction projects. Oversee and supervise the daily workload, mentoring, and quality control for an assigned junior engineer.

- Plan and monitor the workload of projects, while preparing and taking responsibility for the concept of and preliminary engineering solutions for the detailed design phase.
- Implement the detailed design engineering of HVAC systems; code review, heating and cooling load calculations, air-flow requirements, ductwork sizing and layout, piping sizing and layout, equipment selection, and system controls with an emphasis on healthcare facilities.
- Prepare and deliver calculations for Title 24 building compliance.
- Prepare and deliver calculations and documents for project LEED certification.

Select Accomplishments

- Assisted in the implementation and teaching of new 3-D modeling software, CAD-MECH, to team members for the Sutter Health Eden Medical Center.
- Worked with co-workers to create and implement standards for plumbing calculations firm wide leading to an increased efficiency.

EDUCATION

STATE OF CALIFORNIA ~ LICENSED PROFESSIONAL ENGINEER
UC DAVIS EXTENSION – WORKPLACE HEALTH & SAFETY CERTIFICATE (2016)

BACHELOR OF SCIENCE ~ MECHANICAL ENGINEERING (2004)
California Polytechnic State University, San Luis Obispo

Computer Literacy: Proficient in the use of various software applications including Microsoft Office (Word, Excel, PowerPoint, Outlook) AutoCAD 2012/2013, Revit 2013/2014, Visio, NavisWorks, and ProjectWise.

DECLARATION OF
Steven Kerr

I, Steven Kerr, declare as follows:

1. I am employed by the California Energy Commission as an Energy Resources Specialist III (Supervisor) in the Siting, Transmission and Environmental Protection Division.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I oversaw preparation of staff testimony for the revised Sequoia Data Center Initial Study in the technical areas of **Environmental Justice**, **Land Use**, **Transportation**, and **Mandatory Findings**. This testimony reflects my independent analysis of the Application for Small Power Plant Exemption and related materials, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 25, 2021 Signed: Steven A. Kerr

At: Sacramento, California

CALIFORNIA ENERGY COMMISSION

Steven Kerr
Energy Resources Specialist III

Education

California State Polytechnic University, San Luis Obispo, CA
Degree: Bachelor of Science in City and Regional Planning, 2005

Experience

California Energy Commission — Sacramento, CA
Community Resources and CEQA Unit — *Energy Resources Specialist III-Supervisor*
2012-Present

- Supervise the project management of Siting, Transmission, and Environmental Protection Division staff environmental analyses.
- Supervise the preparation of alternatives, environmental justice, land use, mandatory findings of significance, socioeconomics, transportation, and visual resources staff technical analyses.
- Review thermal power plant applications and amendments for environmental impacts.
- Evaluate projects in accordance with CEQA, the California Energy Commission siting regulations, and federal, state and local laws, ordinances, regulations, standards.
- Participate in public workshops and provide testimony at hearings regarding project proposals.
- Write environmental analysis documents.

TPK Inc. — Sacramento, CA
2011-2012 — *Property Manager/Associate Consultant*

- Management of properties and assets throughout California and Oregon.
- Assist in the preparation of mobile home park closure impact report for Port of San Luis.
- Use various software applications to produce and review billing and financial records.
- Work with local agencies to coordinate infrastructure improvements.

City of Sacramento — Sacramento, CA
Development Services Department — *Assistant Planner*
2007-2009

- Project manager for various residential, commercial, industrial, and office development projects.
- Assist customers with zoning, design review, preservation, environmental, subdivision code, and sign questions, both at the public counter and by phone/email.
- Provide customers with required entitlement information, fee estimates, and accept applications for proposed development projects.
- Review applications and plans for consistency with city codes, general plan, and applicable community plans, specific plans, and planned unit development guidelines.
- Present projects at community meetings and work with neighborhood association leaders on controversial projects.
- Write staff reports and conditions of approval.
- Present projects at Zoning Administrator, Planning Commission, and City Council public hearings.
- Research development and entitlement histories of parcels.

City of Atascadero — Atascadero, CA
Community Development Department — *Planning Intern*
2005-2006

- Prepare environmental review documents.
- Review business licenses and building permits.
- Draft letters and staff reports.
- Respond to questions from the public on planning and zoning related issues.
- Access and update information in GIS and Excel.

DECLARATION OF
Joseph Hughes

I, Joseph Hughes, declare as follows:

1. I am employed by the California Energy Commission as an Air Resources Supervisor in the Siting, Transmission and Environmental Protection Division.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared staff testimony for the revised Sequoia Data Center Initial Study in the technical area(s) of **Air Quality**, **Public Health** and **Greenhouse Gases**. This testimony reflects my independent analysis of the Application for Small Power Plant Exemption and related materials, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 21, 2021 Signed: Joseph Hughes

At: Sacramento, California