DOCKETED

Docket Number:	17-SPPE-01
Project Title:	McLaren Backup Generating Facility
TN #:	222057
Document Title:	Application for Small Power Plant Exemption for McLaren Backup Generating Facility - Appendix B Part 1
Description:	*** THIS DOCUMENT SUPERSEDES TN 222041-2 ***
Filer:	Patty Paul
Organization:	DayZen LLC
Submitter Role:	Applicant Representative
Submission Date:	12/26/2017 9:59:48 AM
Docketed Date:	12/26/2017

Appendix B

City of Santa Clara Mitigated Negative Declaration

McLaren Data Center Project

PROPOSED MITIGATED NEGATIVE DECLARATION (MND)

Pursuant to the California Environmental Quality Act (CEQA) Division 13, Public Resources Code

City of Santa Clara
1500 Warburton Avenue
Santa Clara, CA 95050
(408) 615-2450

Project Description

The project site is 8.97 acres (390,900 square feet [sf]) and located at 651, 725, and 825 Mathew Street in Santa Clara, California (refer to Figures 2.0-1, 2.0-2, and 2.0-3). The project site is comprised of three parcels used for industrial warehouse, manufacturing, and office purposes as well as associated surface parking. The existing buildings on the project site have a total footprint of approximately 147,600 sf. There are no trees and limited landscaping present on the project site. The westernmost portion of the project site is the 0.26-acre APN 224-40-011 (located at 825 Mathew Street). Vehicle ingress and egress for this parcel is provided by one gated driveway along Mathew Street. The central portion of the project site is the 4.36-acre APN 224-40-002 (located at 725 Mathew Street). Vehicle ingress and egress to this parcel is provided by one gated driveway along Mathew Street. The easternmost portion of the project site is the 4.35-acre APN 224-40-001 (located at 651 Mathew Street). Vehicle ingress and egress to this parcel is provided by one gated driveway along Mathew Street. APNs 224-40-001 and 224-40-002 were developed as canneries in the late 1940s. The limited landscaping includes several non-native volunteer shrubs, including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree. The project site is primarily surrounded by industrial and commercial land uses (refer to Figure 2.0-3). The project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport.

The project proposes to demolish existing industrial warehouse, manufacturing, and office facilities, as well as associated surface parking. In their place, the project applicant would construct two four-story, 206,500-gross square feet (gsf) data center buildings (a total of 413,000 gsf) and a paved surface parking lot that would become a new Vantage Data Center campus. The project would also include an approximately 36,200-sf Silicon Valley Power (SVP) substation along Mathew Street. The project would be constructed in four phases. Building A in the western portion of the project site would be developed during Phase 1 (southern portion of the building) and Phase 2 (northern portion of the building) (refer to Figures 3.0-1 and 3.0-2). The construction of the electrical substation would primarily occur during Phase 1. Building B in the eastern portion of the project site would be developed during Phase 3 (southern portion of the building) and Phase 4 (northern portion of the building) (refer to Figures 3.0-3 and 3.0-4). The first story of each building would include between approximately 44,100 and 44,300 sf of support facilities for electrical rooms, storage rooms, meeting rooms, break rooms, restrooms, the building lobby, and an outdoor chiller equipment space. Floor plans for the second, third, and fourth floors of Buildings A and B are depicted in Figures 3.0-5 and 3.0-6, respectively. The second floor of the proposed buildings would each include approximately 35,200 sf of space for two data rooms and approximately 18,900 sf for storage and office space. The third and fourth floors would each include approximately 50,200 sf of space for two data rooms and 3,900 sf of space for storage. Buildings A and B would each include one 15-megawatt (MW) data room and one 12-MW data room. The average projected peak load demand for the data halls is 22 MW for Phases 1 and 3, and 17 MW for Phases 2 and 4. The projected critical demand for the entire project is 54 MW and the total projected demand is 76 MW. The height of Buildings A and B to the top of the metal screen would be approximately 107.5 feet above ground surface (refer to Figures 3.0-7, 3.0-8, and 3.0-9).

Vehicle ingress and egress would be provided by four new gated driveways along Mathew Street. The central entry would provide the main passenger vehicle and pedestrian access to the site, while the east and west entries would be intended for service vehicles related to loading and deliveries. Service vehicles would drive around the north portion of the project site and exit through the middle exit driveway. The landscaped central access drive would be flanked by Building A to the west and Building B to the east. There would be a 26-foot wide loop road around the project site for fire access and general circulation. Approximately 162 parking spots would be provided within the project site. In addition, ten Class I bicycle locker spaces and six Class II bicycle rack spaces would be provided on site.

The project site is designated as Heavy Industrial under the City of Santa Clara 2010-2035 General Plan (Santa Clara General Plan) and is zoned as MH (Heavy Industrial). The Heavy Industrial designation allows primary manufacturing, refining and similar activities. It also accommodates warehousing and distribution, as well as data centers. The maximum permitted floor area ratio (FAR) 0.45.

Determination

A Mitigated Negative Declaration (MND), City File No. PLN2016-12246 / CEQ 2016-01023, is proposed by the City of Santa Clara for the project. This Initial Study and supporting documents have been prepared to determine if the project would result in potentially significant or significant impacts to the environment (**Exhibit A, Initial Study**). The 23 mitigation measures that have been identified are listed in **Table 1** below. The supporting technical reports that constitute the record of proceedings upon which a determination is made are available for public review at the City of Santa Clara Planning Division at 1500 Warburton Avenue, Santa Clara, CA 95050, between 8:00 am and 5:00 pm, Monday through Friday.

TABLE 1
Summary of Mitigation Measures

Environmental Factor	Mitigation Measure	Level of Environmental Impact
Air Quality	**MM AIR-1.1:** *Implement BAAQMD Basic Construction Mitigation Measures to Reduce Construction-Related Emissions.* The project applicant shall require all construction contractors to implement the basic construction mitigation measures recommended by BAAQMD, which would reduce fugitive dust emissions to a less-than-significant level. Emission reduction measures shall include, at a minimum, the following measures. Additional measures may be identified by BAAQMD or contractor as appropriate. • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material 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.	Less Than Significant Impact with Mitigation

TABLE 1 Summary of Mitigation Measures		
Environmental Factor	**Mitigation Measure**	**Level of Environmental Impact**
	• All vehicle speeds on unpaved surfaces shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer‘s specifications. All equipment shall be checked by a certified 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.	
Biological Resources	**MM BIO-1.1:** The following measures shall be implemented prior to and during ground disturbance and preliminary grading activities at the project site. • Avoidance of Nesting Bird Season. To the extent feasible, construction shall be scheduled outside the avian nesting season to avoid impacts on nesting birds (including raptors) protected under the MBTA and CFGC. The nesting season for birds in Santa Clara County generally extends from January 1 through September 1. • Pre-construction/Pre-disturbance Surveys for Nesting Birds. If construction activities cannot be scheduled outside of the nesting season noted above, pre-construction surveys for nesting birds shall be completed by a qualified biologist to identify any active nests that could be disturbed during project implementation. Surveys shall be completed no more than 7 days prior to the initiation of ground disturbance and preliminary grading. During this survey, the biologist shall inspect the volunteer shrubs along the eastern perimeter of the project site. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist shall determine the extent of a disturbance-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 no nests of species protected by the MBTA and CFGC will be disturbed during project construction. • A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the Director of Community Development prior to the start of ground disturbance, grading, and/or tree removal activities.	Less Than Significant Impact with Mitigation

TABLE 1 Summary of Mitigation Measures		
Environmental Factor	**Mitigation Measure**	**Level of Environmental Impact**
Cultural Resources	**MM CR-1.1:** A qualified archaeologist shall be on site to monitor grading of native soil once all pavement is removed from the project site. 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 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. **MM CR-1.2:** In the event that prehistoric or historic resources are encountered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped, the Director of Community Development shall be notified, and a qualified archaeologist or paleontologist 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. **MM CR-1.3:** In the event that human remains are discovered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial, which shall be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. **MM CR-2.1:** Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology, who is experienced in teaching non-specialists, to ensure they can recognize fossil materials and shall follow proper notification procedures in the event any are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate its significance. If a fossil is found and determined by the qualified paleontologist to be significant and avoidance is not feasible, the paleontologist shall develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be	Less Than Significant Impact with Mitigation

TABLE 1 Summary of Mitigation Measures		
Environmental Factor	**Mitigation Measure**	**Level of Environmental Impact**
	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.	
Geology and Soils	**MM GEO-1.1:** All excavation and grading work shall be scheduled in dry weather months, or the construction sites shall be weatherized to withstand or avoid erosion. **MM GEO-1.2:** Stockpile and excavated soils shall be covered with secured tarps or plastic sheeting. **MM GEO-1.3:** Vegetation in disturbed areas shall be replanted as quickly as possible.	Less Than Significant Impact with Mitigation
Hazards and Hazardous Materials	**MM HAZ-1.1:** In accordance with federal, state, and local regulations, ACM and ACCM must be removed by a licensed asbestos abatement contractor from the structures prior to renovation/demolition. **MM HAZ-1.2:** Disturbance to unidentified suspect ACMs not mentioned in this report should be avoided until a certified asbestos building inspector can survey and assess the disposition of such materials. **MM HAZ-1.3:** During demolition activities, all building materials containing LBP should be performed by a contractor who has the experience and expertise in LBP abatement, handling, and disposal. Construction work where an employee may be occupationally exposed to lead in any amount must comply with 29 CFR 1926.62 (8 CCR 1532.1 in California). Additionally, lead containing waste must be characterized and profiled for proper disposal according to applicable federal, State and local regulations.	Less Than Significant Impact with Mitigation
Hydrology and Water Quality	**MM HYDRO-1.1:** Prior to construction of the project, the City shall require the project applicant and/or contractors for the project to submit a Storm Water Pollution Prevention Plan (SWPPP) and a Notice of Intent (NOI) to the State of California Water Resource Quality Control Board to control the discharge of storm water pollutants including sediments associated with construction activities. Along with these documents, the project applicant may also be required to prepare an Erosion Control Plan. The Erosion Control Plan may include Best Management Practices (BMPs) as specified in the California Storm Water Best Management Practice Handbook (such as silt fences/straw waddles around the perimeter of the site, regular street cleaning, and inlet protection) for reducing impacts on the City's storm drainage system from construction activities. The SWPPP shall include control measures during the construction period for: • Soil stabilization practices, • Sediment control practices, • Sediment tracking control practices, • Wind erosion control practices, and • Non-storm water management and waste management and disposal control practices	Less Than Significant Impact with Mitigation

TABLE 1 Summary of Mitigation Measures		
Environmental Factor	**Mitigation Measure**	**Level of Environmental Impact**
	MM HYDRO-1.2: Prior to issuance of a grading permit, the project applicant and/or contractors shall be required to submit copies of the NOI and Erosion Control Plan (if required) to the Department of Public Works. The project applicant and/or contractors shall also be required to maintain a copy of the most current SWPPP on-site and provide a copy to any City representative or inspector on demand. **MM HYDRO-1.3:** The project shall comply with City of Santa Clara ordinances, including erosion- and dust-control during site preparation and grading, and maintaining adjacent streets free of dirt and mud during construction. **MM HYDRO-1.4:** The project shall comply with municipal NPDES permit issued to the City of Santa Clara. **MM HYDRO-2.1:** When the construction phase is complete, a Notice of Termination (NOT) for the General Permit for Construction shall be filed with the RWQCB and the City of Santa Clara. The NOT shall document that all elements of the SWPPP have been executed, construction materials and waste have been properly disposed of, and a post-construction stormwater management plan is in place as described in the SWPPP for the project site. **MM HYDRO-2.2:** All post-construction Treatment Control Measures (TCMs) shall be installed, operated, and maintained by qualified personnel. On-site inlets shall be cleaned out a minimum of once per year, prior to the wet season. **MM HYDRO-2.3:** The property owner/site manager shall keep a maintenance and inspection schedule and record to ensure the TCMs continue to operate effectively for the life of the project. Copies of the schedule and record must be provided to the City upon request and must be made available for inspection on-site at all times. **MM HYDRO-2.4:** During operation of the project, the project shall comply with the requirements outlined in the approved Water Quality Pump System Maintenance Plan prepared for the project.	
Noise	**MM NOI-1.1:** The project applicant shall prepare and implement measures to ensure that outdoor mechanical equipment does not generate noise levels in excess of the City's applicable noise standard for the applicable zoning category (i.e. 75 dBA noise standard at the nearest heavy industrial uses, 65 dBA at the nearest commercial land uses, and 55 dBA at the nearest residential land uses). All sound, noise, or vibration measurements shall be taken at the closest point to the noise or vibration source on the adjacent real property, or on any other property, affected by the noise or vibration. Measures included in this noise control plan that could help to accomplish this standard include, but are not limited to: • Installing sound enclosures or barriers around noise-generating mechanical equipment (including but not limited to emergency generators and pumps). The generators may need to be fully enclosed to meet the applicable noise standards. • Reducing the number of generators tested at once.	Less Than Significant Impact with Mitigation

TABLE 1 Summary of Mitigation Measures		
Environmental Factor	**Mitigation Measure**	**Level of Environmental Impact**
	• Utilizing mufflers to reduce noise from mechanical equipment, and • Utilizing quieter equipment (e.g. smaller, quieter generators) that meets this standard. Prior to the issuance of an occupancy permit, the project applicant shall prepare a report, identifying measures that shall be implemented to ensure that exterior noise levels from mechanical equipment comply with the City's noise standards, to the satisfaction of the Director of Community Development.	

Original Signed

February 10, 2017

Gloria Sciara, AICP, Development Review Officer
City of Santa Clara

Date

Exhibit A

Initial Study

McLaren Data Center Project

File No(s): PLN2016-12246 / CEQ 2016-01023

City of Santa Clara

February 2017

TABLE OF CONTENTS

Section 1.0 Introduction and Purpose 1
Section 2.0 Project Information 2
2.1 Project Title 2
2.2 Project Location 2
2.3 Lead Agency Contact 2
2.4 Property Owner/Project Applicant 2
2.5 Assessor's Parcel Numbers 2
2.6 Zoning District and General Plan Designations 2
Section 3.0 Project Description 6
3.1 Project Overview 6
3.2 Existing Site Conditions 6
3.3 Project Description 7
Section 4.0 Setting, Environmental Checklist and Impacts 24
4.1 Aesthetics 24
4.2 Agricultural and Forest Resources 31
4.3 Air Quality 32
4.4 Biological Resources 45
4.5 Cultural Resources 49
4.6 Geology and Soils 62
4.7 Greenhouse Gas Emissions 66
4.8 Hazards and Hazardous Materials 81
4.9 Hydrology and Water Quality 89
4.10 Land Use 97
4.11 Mineral Resources 102
4.12 Noise 103
4.13 Population and Housing 117
4.14 Public Services 118
4.15 Recreation 121
4.16 Transportation 122
4.17 Utilities and Service Systems 130
4.18 Mandatory Findings of Significance 138
Section 5.0 References 142
Section 6.0 Authors and Consultants 147

TABLES

Table 3.0-1 Project Characteristics 8
Table 3.0-2 Efficiency Features: Project Mechanical and Electrical Systems 12
Table 3.0-3 Efficiency Measures for Tenants and Water Use Reduction 12
Table 4.3-1 BAAQMD Thresholds of Significance 36
Table 4.3-2 Estimated Construction Criteria Pollutant Emissions from the Project (pounds per day) 38
Table 4.3-3 Estimated Construction Health Impacts at the Maximally Exposed Individual Sensitive Receptor 39
Table 4.3-4 Estimated Operation Criteria Pollutant Emissions from the Project (pounds per day) 41
Table 4.3-5 Estimated Operational Health Impacts at the Maximally Exposed Individual Sensitive Receptor 42
Table 4.3-6 Estimated Construction and Operation Criteria Pollutant Emissions from the Project (tons per year) 43
Table 4.3-7 Estimated Cumulative Health Impacts at the Maximally Exposed Individual Sensitive Receptor 44
Table 4.6-1 Active Faults Near the Project Site 63
Table 4.7-1 Comparison of SVP and Statewide Power Mix 75
Table 4.7-2 Summary of Estimated GHG Emissions from Stationary Sources during Project Operation (Metric Tons Per Year of CO_2e) 76
Table 4.7-3 Summary of Estimated GHG Emissions from Electricity Use, Mobile Sources, Area Sources, Water Use, and Waste Generation during Project Operation (Metric Tons Per Year of CO_2e) 76
Table 4.7-4 Project Consistency with Santa Clara General Plan Sustainability Policies 79
Table 4.9-1 Existing and Proposed Pervious and Impervious Surfaces On-Site 94
Table 4.10-1 Project Consistency with Santa Clara General Plan Land Use Policies 99
Table 4.12-1 Typical A-weighted Sound Levels 104
Table 4.12-2 Vibration Source Levels for Demolition and Construction Equipment 105
Table 4.12-3 Guideline Vibration Damage Potential Threshold Criteria 106
Table 4.12-4 Guideline Vibration Annoyance Potential Criteria 106
Table 4.12-5 Santa Clara City Code Schedule A Exterior Sound or Noise Limits 107
Table 4.12-6 Typical Construction Noise Emission Levels for Project Construction Equipment 110
Table 4.12-7 Project Demolition and Construction Noise Levels (LEQ) at Various Distances 111
Table 4.12-8 Existing and Existing plus Project Peak-Hour Traffic Volumes on Lafayette Street near the Project Site. 116
Table 4.17-1 Existing Intersection Level of Service Summary 123
Table 4.17-2 Existing Plus Project Intersection Level of Service Summary 128

FIGURES

2.0-1 Regional Map 3
2.0-2 Vicinity Map 4
2.0-3 Aerial Photograph and Surrounding Land Uses 5
3.0-1 Phase 1 Site Plan 14
3.0-2 Phase 2 Site Plan 15
3.0-3 Phase 3 Site Plan 16
3.0-4 Phase 4 Site Plan 17
3.0-5 Building A Floor and Roof Plans 18
3.0-6 Building B Floor and Roof Plans 19
3.0-7 Building A East and West Elevations 20
3.0-8 Building B West and East Elevations 21

3.0-9 Buildings A and B North and South Elevations 22
3.0-10 Landscape Plan 23
4.1-1 Existing On-Site Views (825 Mathew Street and 725 Mathew Street) 28
4.1-2 Existing On-Site Views (651 Mathew Street) 29
4.1-3 Existing Off-Site Views 30

APPENDICES

Appendix A	Tree Assessment
Appendix B	Air Quality Technical Report
Appendix C.1	Department of Parks and Recreation 523 Form for 651 Mathew Street
Appendix C.2	Department of Parks and Recreation 523 Form for 725 Mathew Street
Appendix D	Geotechnical Investigation
Appendix E	September 14, 2016 Letter from Rosendin Electric to Nick Steketee
Appendix F	Phase I Environmental Site Assessment
Appendix G	Traffic Evaluation
Appendix H	November 3, 2016 Letter from Silicon Valley Power to Vantage Data Centers
Appendix I	Sanitary Sewer Capacity Evaluation

Printed copies of this document contain the Appendices on CD on the back page.

SECTION 1.0 INTRODUCTION AND PURPOSE

This Initial Study (IS) of environmental impacts is being prepared to conform to the requirement of the California Environmental Quality Act (CEQA), the CEQA Guidelines (California Code of Regulations 15000 et. seq.), and the regulations and policies of the City of Santa Clara. The purpose of this document is to provide objective information regarding the environmental consequences of the proposed project to the decision makers who will be reviewing and considering the project. The City of Santa Clara is the Lead Agency for the project under CEQA.

This IS evaluates the potential environmental impacts that might reasonably be anticipated to result from the construction of two four-story, 206,500-gross square feet (gsf) data center buildings (a total of 413,000 gsf) and a paved surface parking lot that would become a new Vantage Data Center campus on an approximately 8.97-acre site. The project would also include an approximately 36,200-sf Silicon Valley Power (SVP) substation along Mathew Street.

All documents referenced in this IS are available for public review in the Department of Community and Development at Santa Clara City Hall, 1500 Warburton Avenue, during normal business hours.

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

McLaren Data Center Project

2.2 PROJECT LOCATION

The project site is located at 651, 725, and 825 Mathew Street in Santa Clara (see Figures 2.0-1, 2.0-2, and 2.0-3). The site is bordered by Mathew Street to the south, the Southern Pacific Railroad to the east, and other commercial and industrial properties to the north and west. The project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport.

2.3 LEAD AGENCY CONTACT

City of Santa Clara
Yen Han Chen, Associate Planner
Community Development Department
1500 Warburton Avenue
Santa Clara, CA 95050
Phone: (408) 615-2450

2.4 PROPERTY OWNER/PROJECT APPLICANT

Vantage Data Centers
Spencer Meyers
2805 Bowers Avenue
Santa Clara, CA 95051
Phone: (408) 473-3321

2.5 ASSESSOR'S PARCEL NUMBERS

The project site includes Assessor's Parcel Numbers (APNs) 224-40-011 (0.26 acre), 224-40-002 (4.36 acres), and 224-40-001 (4.35 acres).

2.6 ZONING DISTRICT AND GENERAL PLAN DESIGNATIONS

Zoning District: *MH-Heavy Industrial*

General Plan Designation: *Heavy Industrial*

2.7 PROJECT-RELATED APPROVALS, AGREEMENTS, AND PERMITS

A lot line adjustment is proposed as part of the project and the project would retain the lots. The project applicant is requesting a zoning administrator modification to allow for a height increase of up to 25 percent. In addition, the project will be subject to review by the City's Architectural Committee and will be subject to an Authority to Construct permit or Permit to Operate from the Bay Area Air Quality Management District.

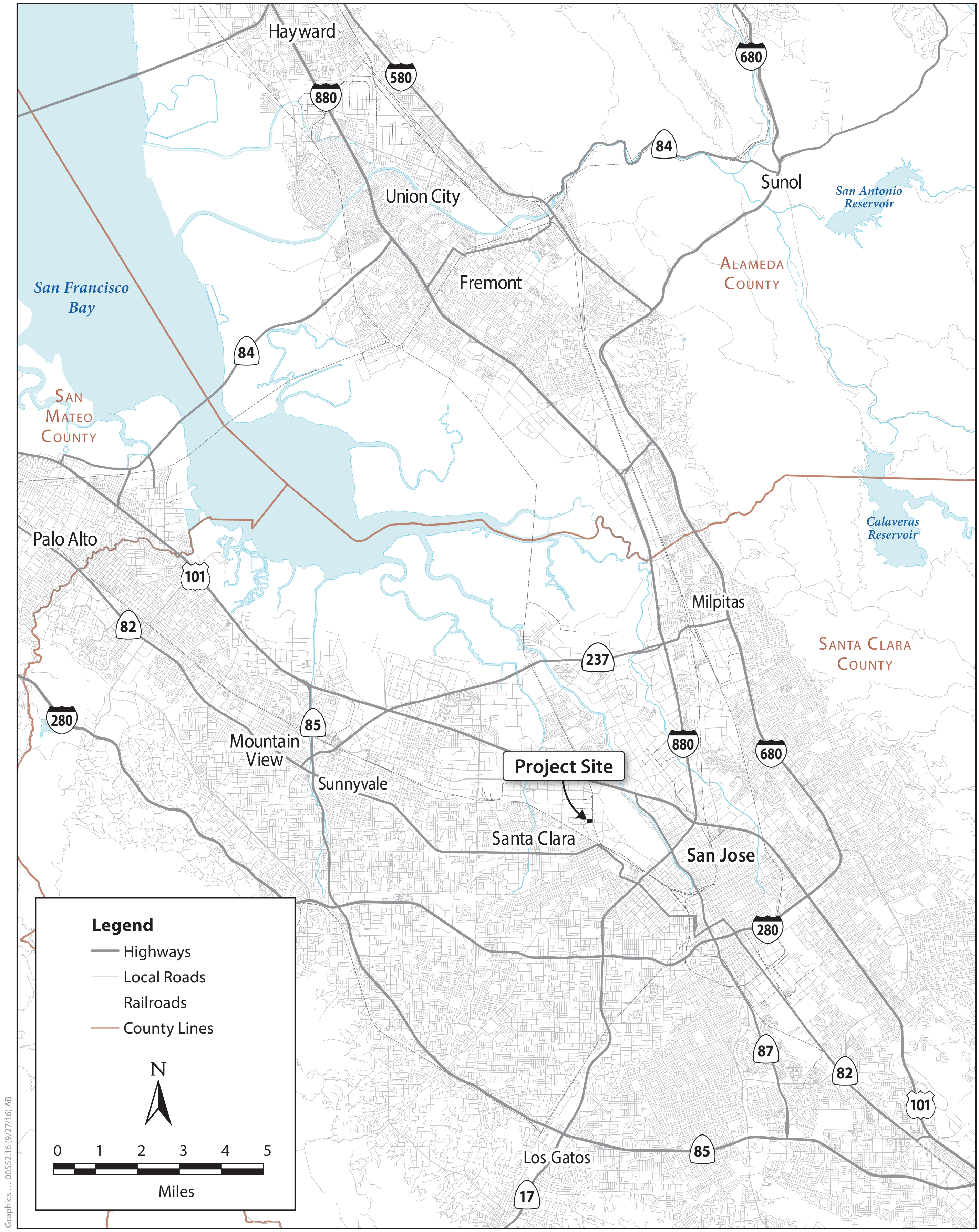
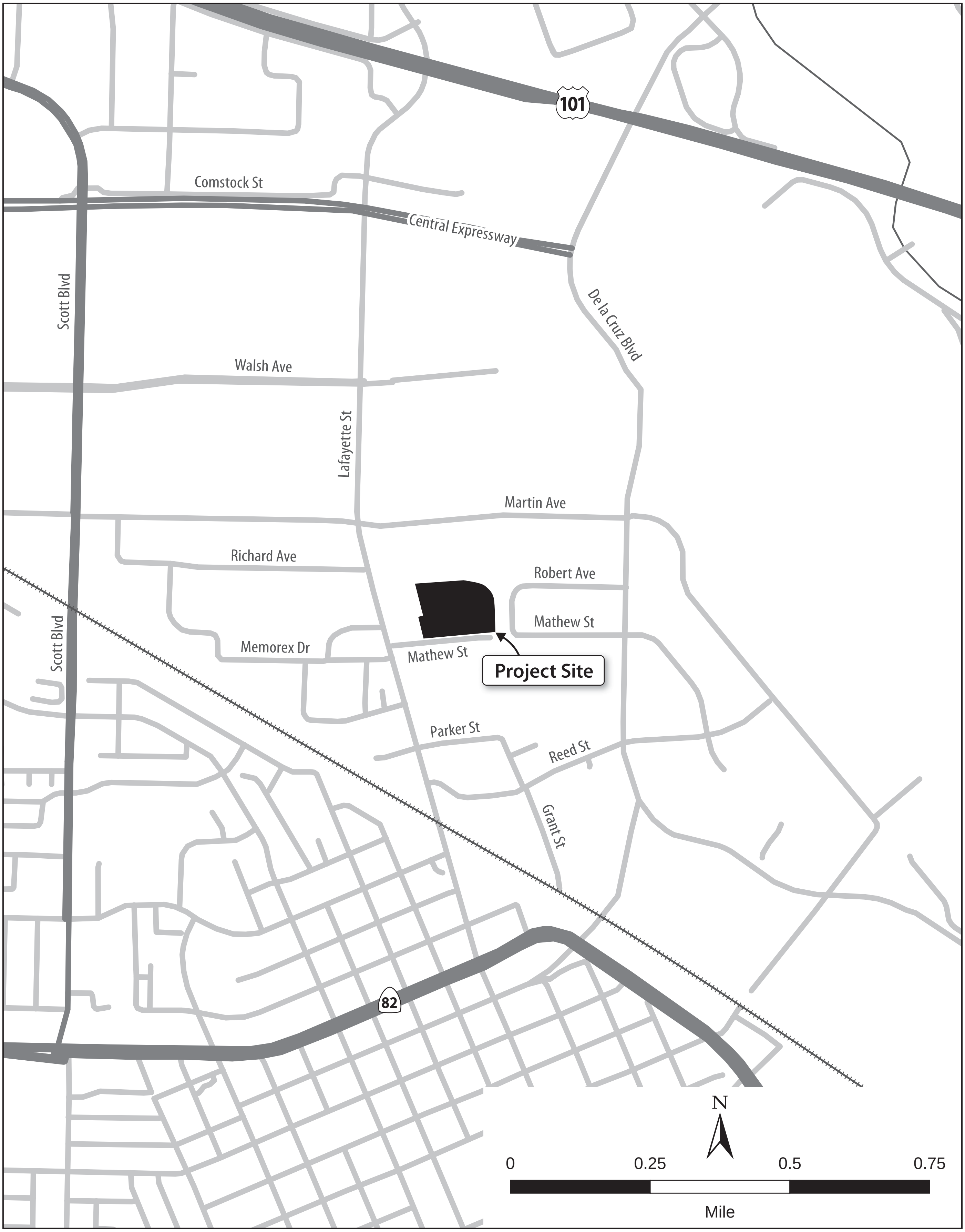
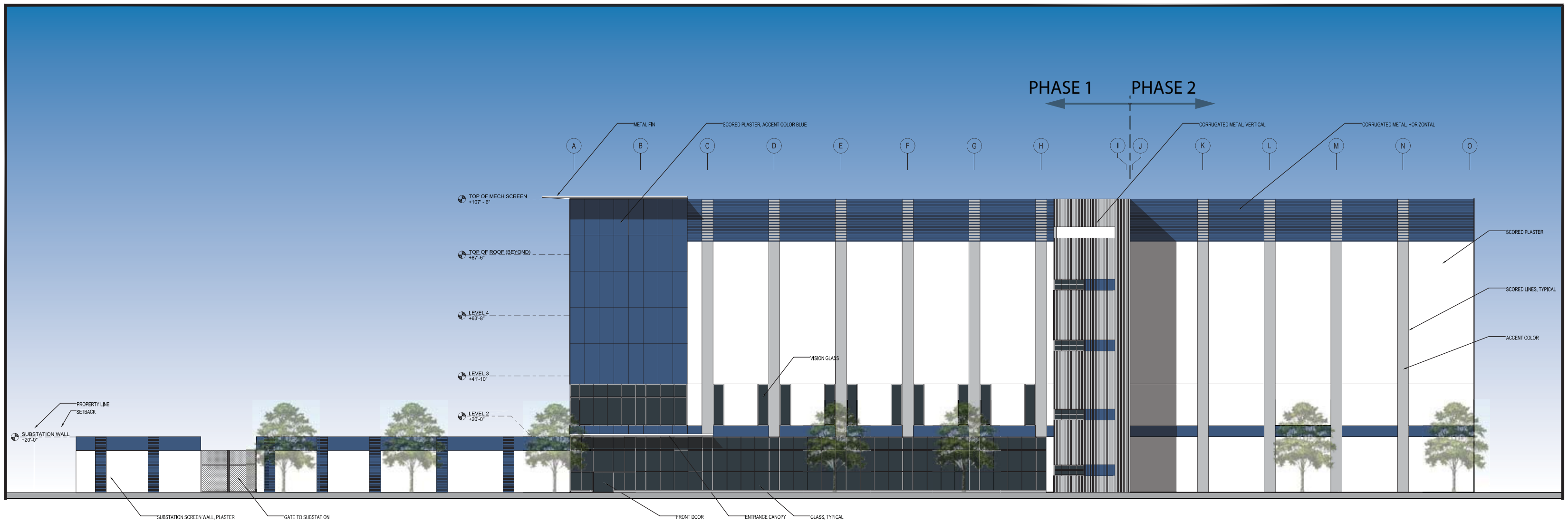


Figure 2.0-1
Regional Map

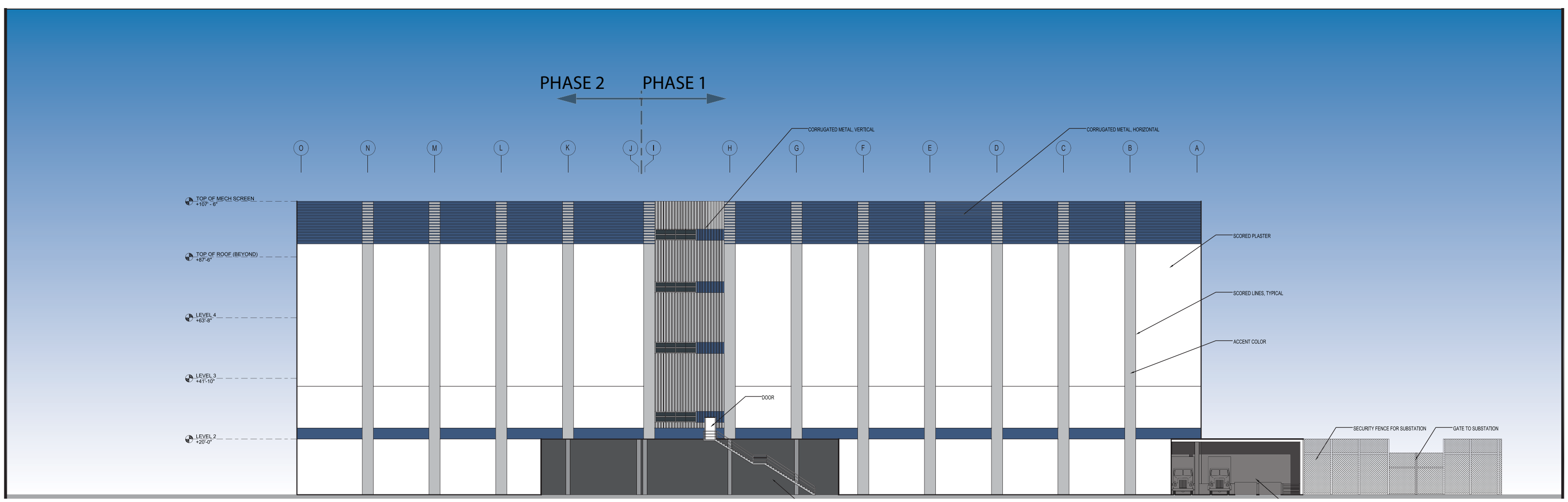


Graphics … 00552.16 (9/27/16) AB

Figure 2.0-2
Vicinity Map



East Elevation



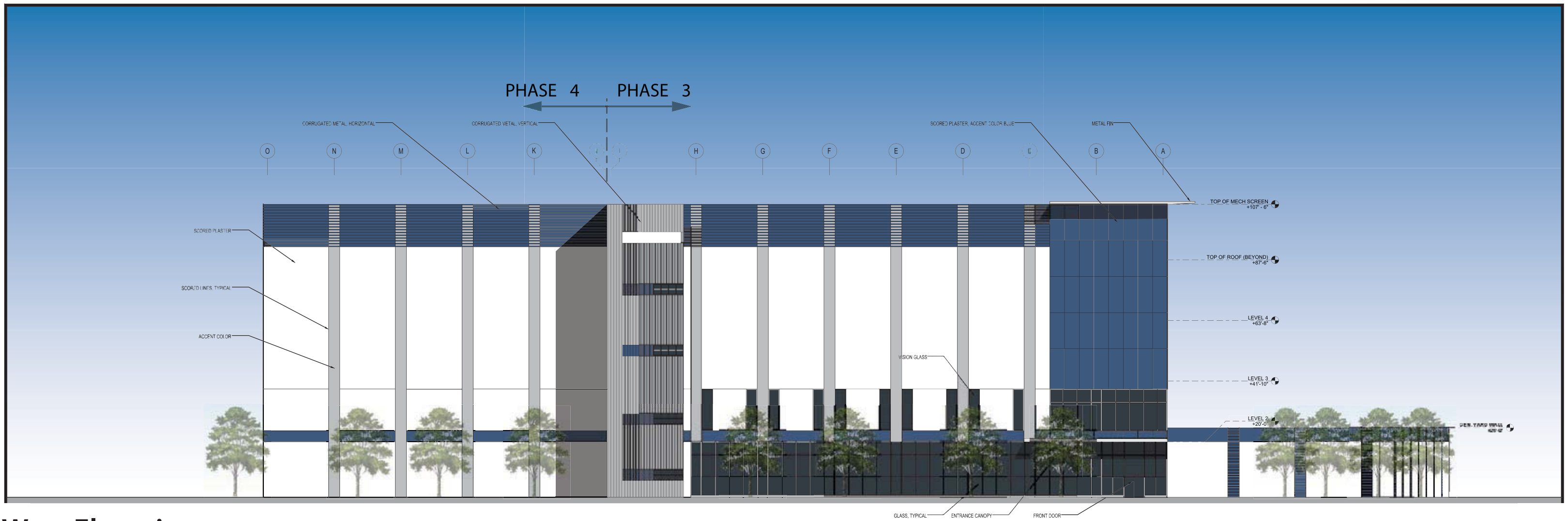
West Elevation

0 50 100
Feet

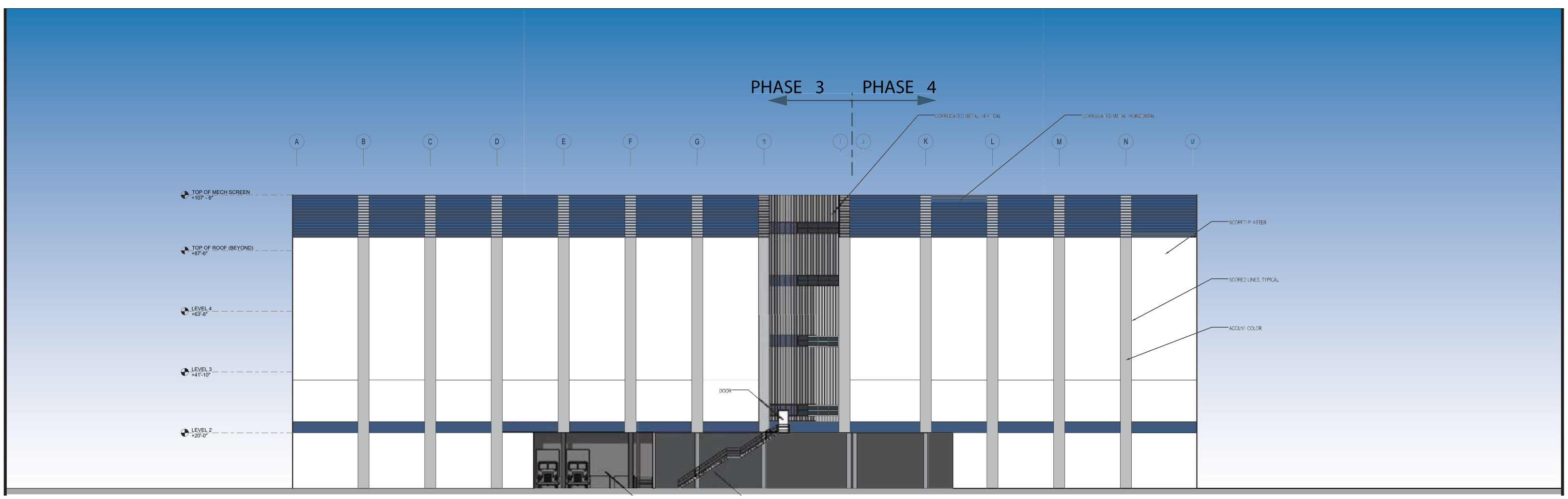
Source: CAC Architects, 2016.

Graphics ... 00552.16 (11/4/16) AB

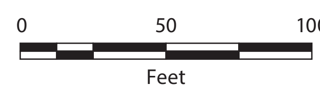
Figure 3.0-7
Building A East and West Elevations



West Elevation



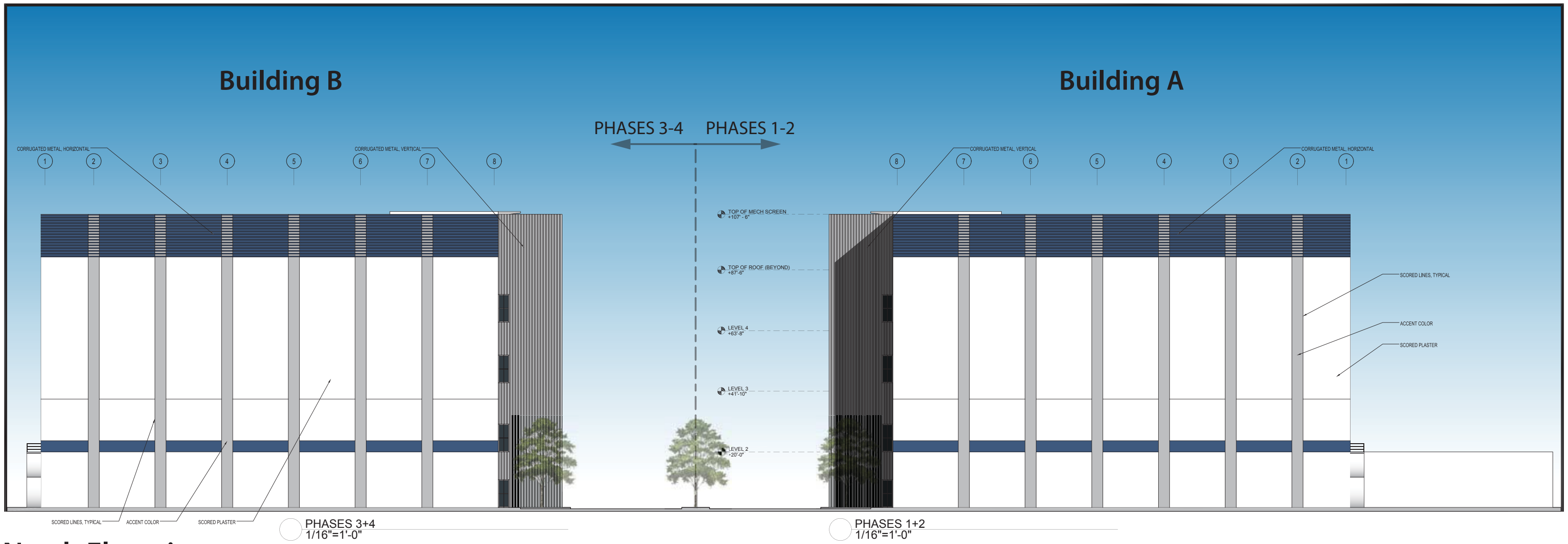
East Elevation



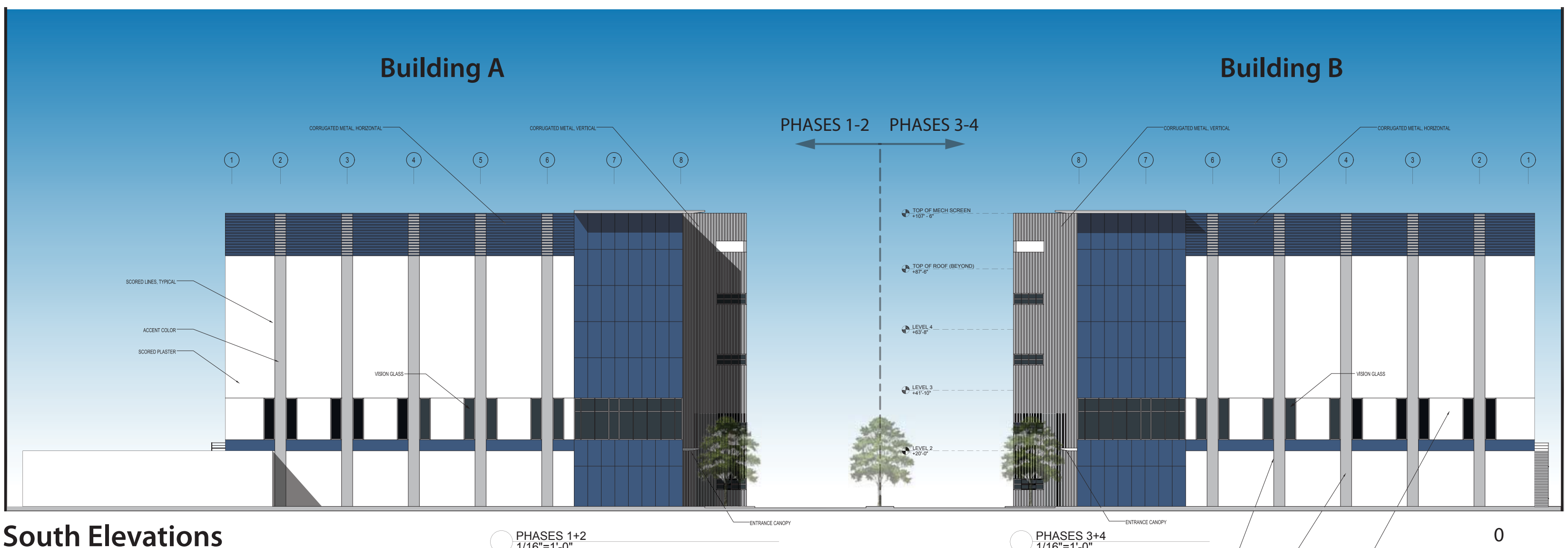
Source: CAC Architects, 2016.

Graphics ... 00552.16 (11/4/16) AB

Figure 3.0-8
Building B West and East Elevations



North Elevations



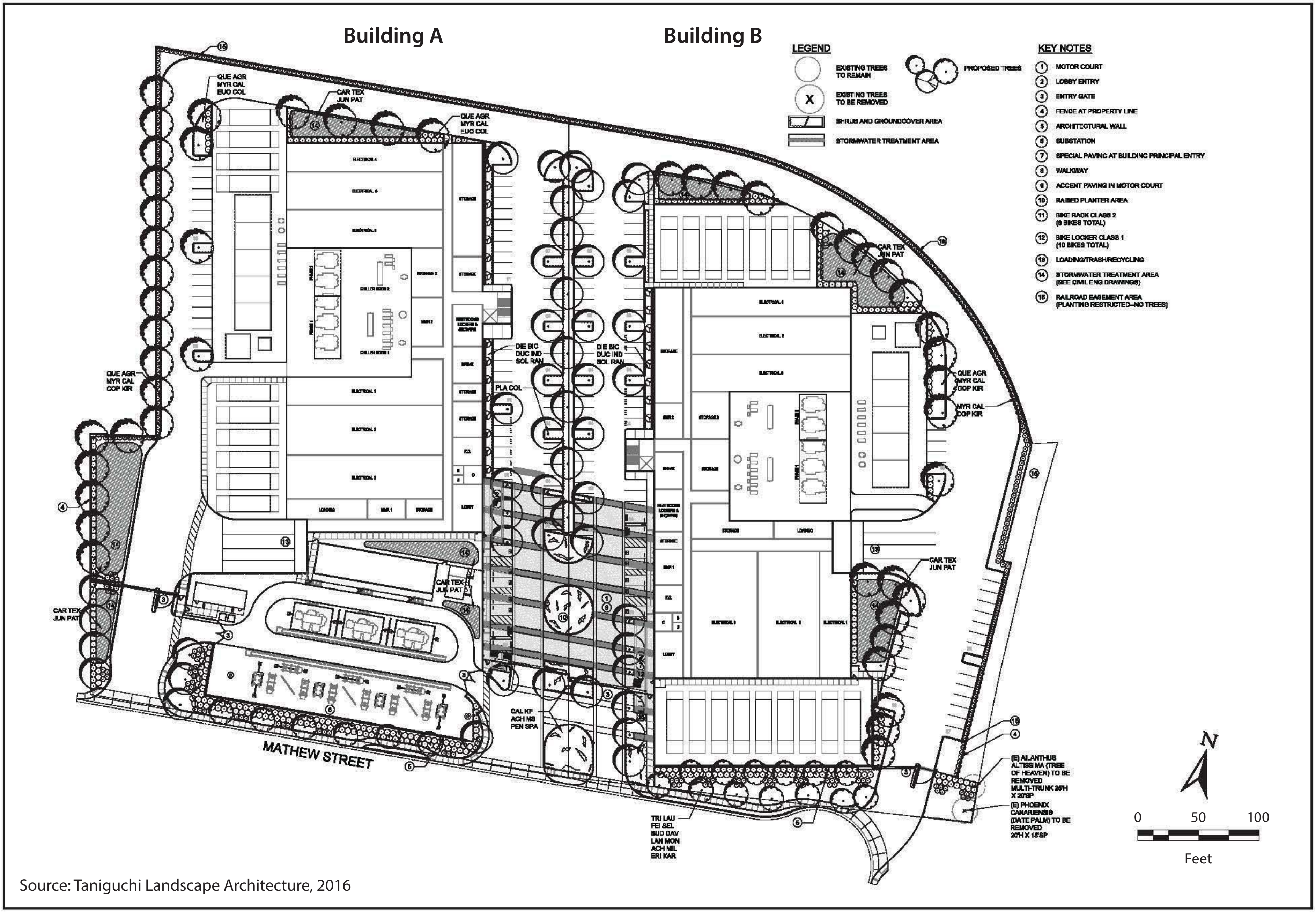
South Elevations

0 50
Feet

Source: CAC Architects, 2016.

Graphics ... 00552.16 (11/4/16) AB

Figure 3.0-9
Buildings A and B North and South Elevations



Source: Taniguchi Landscape Architecture, 2016

Figure 3.0-10
Landscape Plan

SECTION 4.0 SETTING, ENVIRONMENTAL CHECKLIST AND IMPACTS

This section describes the existing environmental conditions on and near the project area, as well as environmental impacts associated with the proposed project. The environmental checklist, as recommended in the California Environmental Quality Act (CEQA) Guidelines, identifies environmental impacts that could occur if the proposed project is implemented.

Mitigation measures are identified for all significant project impacts. "Mitigation Measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines §15370).

4.1 AESTHETICS

4.1.1 Setting

4.1.1.1 Project Site

The project site is developed with industrial warehouse, manufacturing, and office facilities, as well as associated surface parking. The westernmost portion of the project site is the 0.26-acre parcel located at 825 Mathew Street. This parcel is a small paved lot that provides 13 surface parking spaces for the adjacent parcel. The central portion of the project site is the 4.36-acre parcel located at 725 Mathew Street. This parcel includes approximately 107,600 sf of buildings consisting of 11 one- and two-story warehouses, offices, vacant space, and paved surface parking. The warehouses serve as storage for a fruit manufacturer, a furniture company; a heating, ventilation and air conditioning (HVAC) contractor; and automotive vehicle storage. In addition, a vacant tomato paste manufacturing facility and cannery with large overhead equipment is located on this parcel. The easternmost portion of the project site is the 4.35-acre parcel located at 651 Mathew Street. This parcel includes approximately 40,000 sf of buildings, consisting of nine one-story industrial warehouses that are used by Diana Fruit Company Inc. for fruit processing and storage and two office buildings used for administrative and quality assurance purposes. Above ground storage tanks and fermenting bins are distributed throughout this parcel.

The project site includes properties that were developed as canneries in the late 1940s. However, as discussed in further detail in Section 4.5, *Cultural Resources*, the structures within the project site are not considered historical resources under CEQA.

There are no trees and limited landscaping present on the project site.[8] The limited landscaping includes several non-native volunteer shrubs along the east side of the project site, including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree.

Based on a site reconnaissance and historic assessment of on-site structures, there are no valued visual resources on the project site.

4.1.1.2 Surrounding Land Uses

The site is bordered by Mathew Street to the south, the Southern Pacific Railroad to the east, and other commercial and industrial properties to the north and west. The project site is primarily surrounded by industrial and commercial land uses. The buildings utilize a variety of building materials such as metal,

---

[8] Arborwell. 2016. *Tree Assessment for 651, 725-825 Mathew Street, Santa Clara, CA*. September 19. See Appendix A of this Initial Study.

glass, wood, concrete, and stone. The area surrounding the project site is characterized by low to mid-rise buildings that are set back from the roadway with physical barriers (fences and gates), large surface parking lots, landscaped areas, and trees along the street frontages. Overall, the visual character of the project site and surrounding area can be characterized as highly urbanized. Refer to Figure 4.1-3 for photographs showing existing off-site views.

4.1.1.3 Scenic Views and Resources

The project site and the surrounding area are relatively flat and, as a result, the site is only visible from the immediate vicinity, particularly along adjacent roadways including Mathew Street, Robert Avenue and Lafayette Street. No designated scenic vistas or view corridors are located within the City; however, the City of Santa Clara 2010-2035 General Plan Integrated Environmental Impact Report (Santa Clara General Plan EIR) lists the Santa Cruz Mountains, Diablo range, San Tomas Aquino Creek, and the Guadalupe River as "visual resources" within the City.[9] Views of the foothills to the east and west of the project site are obscured by buildings and landscape trees. Due to distance, topography, and intervening landscape trees, the project site cannot be seen in conjunction with San Tomas Aquino Creek (located 1.2 miles west of the project site) and the Guadalupe River (located 1.2 miles east of the project site). In addition, the site is not within a scenic viewshed or along a scenic highway designated by the California Department of Transportation (Caltrans) Scenic Highway Program.[10]

4.1.1.4 Light and Glare

Sources of light and glare are abundant in the urban environment of the area surrounding the project site, including, but not limited to, street lights, parking lot lights, security lights, vehicular headlights, internal building lights, and reflective building surface and windows.

4.1.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
3. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
4. Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☒	☐

---

9 City of Santa Clara. 2011. *City of Santa Clara 2010-2035 General Plan Integrated Final Environmental Impact Report.* January. Available: http://santaclaraca.gov/home/showdocument?id=12900. Accessed: September 30, 2016.

10 Caltrans. 2016. California Scenic Highway Program - Scenic Highway Routes. Available: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed: September 30, 2016.

4.1.2.1 Visual and Aesthetic Impacts

The project would demolish all of the existing on-site structures and associated surface parking, and construct two new four-story data center buildings with supporting parking and an electrical substation. As is customary for all new construction, the project site would be enclosed with temporary construction fencing and generally most of the on-site storage of soils, pipes, machinery, and building materials would not be visible. Further, aesthetic impacts during construction would be temporary and would cease upon completion of construction activities. Therefore, construction of the project would not substantially degrade the existing visual quality or character of the site or its surroundings. **(Less Than Significant Impact)**

There are no existing trees on the project site. Several non-native volunteer shrubs (including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree) along the east side of the project site are proposed for removal as part of the project (refer to Figure 3.0-10). Approximately 120 new trees (including London Plane, Coast Live Oak, and Brisbane Box trees) would be planted around the perimeter of the project site and along the central access drive. In addition, shrubs and ground cover would be planted throughout the project site. Therefore, the project would not result in adverse aesthetic impacts related to tree or landscape removal, since landscape cover would be increased under the project. For a discussion of the potential biological resource impacts associated with the proposed shrub removals and new landscaping, refer to Section 4.4, *Biological Resources*.

The project would increase the height and density of development on-site. The height of the proposed buildings to the top of the metal screen would be approximately 107.5 feet above ground surface. The façades of the proposed buildings would consist primarily of plaster or other cementitious skin materials, metal, and glass. The design of the proposed buildings incorporates the use of varied surface materials and colors as well as accent elements including an exposed stair/elevator tower, vertical bands and corrugated metal panels. These architectural elements help create visual interest and reduce the perceived height and bulk of the structure by breaking up the building facade. In addition, Building B, which would be closer to Mathew Street than Building A, would be set back from the southern property line along Mathew Street by approximately 100 feet.

The proposed buildings would be one to two stories higher than the surrounding low to mid-rise structures. However, the façades of the proposed buildings would be visually similar to the surrounding uses, which are primarily heavy industrial and commercial. The project area is developed with buildings that feature a mix of architectural styles and no particular dominant design aesthetic. The proposed buildings and surface parking lot design would be compatible with the mixed visual character of the area. Overall, the project would be generally consistent with adjacent industrial and commercial development in terms of visual character and quality.

The buildings and site improvements would be subject to the City's design review process to ensure that the project would not adversely affect the visual quality of the area and would conform to current architectural and landscaping standards. The project will be subject to review by the City's Architectural Committee, which will ensure the project conforms to Santa Clara's adopted Community Design Guidelines. The guidelines were developed to support community aesthetic values, preserve neighborhood character, and promote a sense of community and place throughout the City. Therefore, the project would not substantially degrade the existing visual quality or character of the site or its surroundings. **(Less Than Significant Impact)**

As previously stated, the project site and the surrounding area are relatively flat and, as a result, the site is only visible from the immediate area. The project would not be visible within the viewsheds of any of the visual resources in the City identified by the Santa Clara General Plan EIR due to existing development, vegetation, and distance. The site is not within a scenic viewshed or along a scenic highway designated by Caltrans. Additionally, according to the Santa Clara General Plan EIR, there are no scenic vistas within the City.[11] Therefore, implementation of the project would have no impact on scenic vistas or view corridors **(No Impact)**

Light and Glare

The project would include outdoor security and wayfinding lighting on the project site, along walkways, driveways, entrance areas, and within the surface parking areas. The outside lighting would be comparable in brightness to the ambient lighting in the surrounding area. Increased lighting on the project site, relative to existing outdoor lighting, would increase the overall level of illumination in the area. The design of exterior facades of the proposed buildings would be subject to the City's design review process prior to issuance of building permits to ensure the project would not create a substantial new source of light or glare for adjacent businesses or persons traveling on the nearby roadways. Typical design requirements include directional and/or shielded lights to minimize brightness and glare of the lights. In addition, the exterior surfaces of the proposed buildings would utilize low-glare glazing and would not be a significant source of glare during daytime hours. The project would not include illuminated signage. **(Less Than Significant Impact)**

4.1.3 Conclusion

The project would result in a less-than-significant impact on aesthetics. **(Less Than Significant Impact)**

[11] City of Santa Clara. 2011. *City of Santa Clara 2010-2035 General Plan Integrated Final Environmental Impact Report.* January. Available: http://santaclaraca.gov/home/showdocument?id=12900. Accessed: October 6, 2016.

View A: View of the surface parking spaces looking south at 825 Mathew Street.

View B: View of the vacant tomato paste manufacturing facility and cannery at 725 Mathew Street looking north.

Graphics … 00552.16 (10/24/16) AB

Figure 4.1-1
Existing On-Site Views
(825 Mathew Street and 725 Mathew Street)

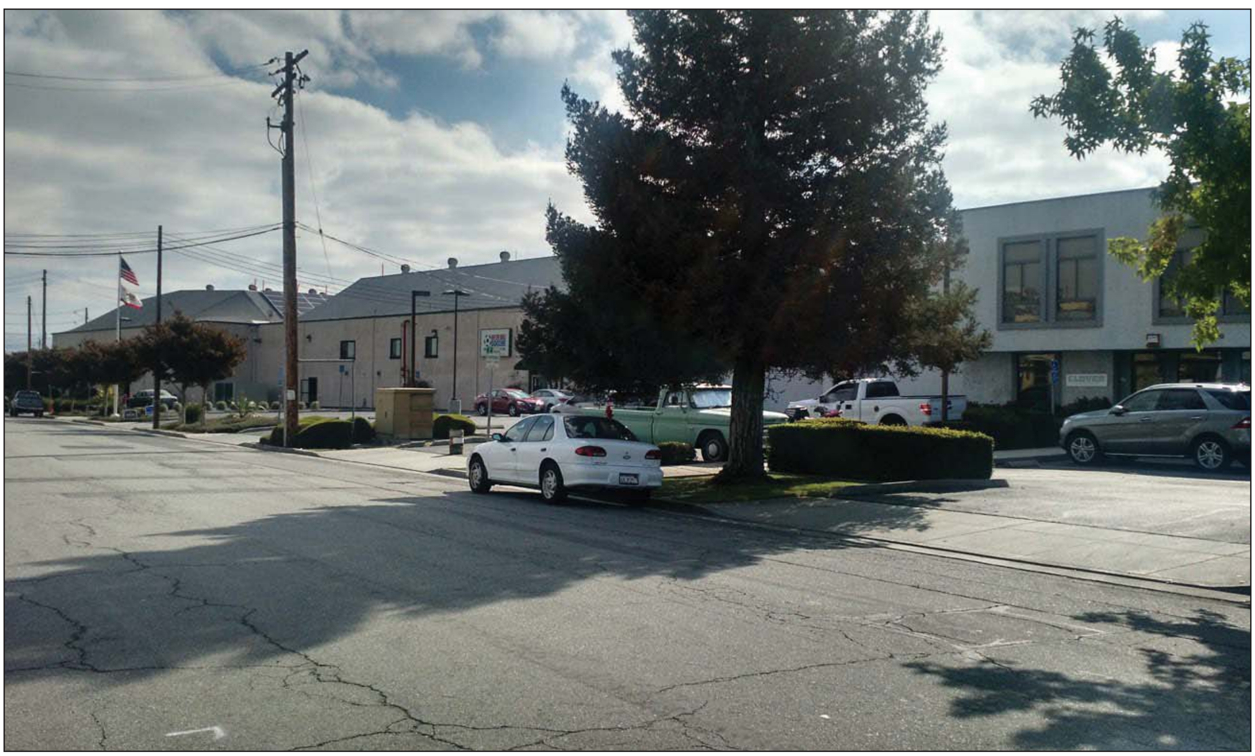
View A: View of the Diana Fruit Company Inc. office building looking north.

View B: View of the Diana Fruit Company Inc. processing facility looking east.

Graphics ... 00552.16 (10/24/16) AB

Figure 4.1-2
Existing On-Site Views
(651 Mathew Street)

View A: View of the north side of Mathew street looking west from 825 Mathew Street.



View B: View of the south side of Mathew Street looking east from 825 Mathew Street.

Graphics … 00552.16 (10/24/16) AB

Figure 4.1-3
Existing Off-Site Views

4.2 AGRICULTURAL AND FOREST RESOURCES

4.2.1 Setting

The project site is located in an existing developed, urban area of the City and is not used for agricultural purposes. The project site is designated as "Urban and Built-up Land" on the *Santa Clara County Important Farmland 2012 map*, which is defined as residential land with a density of at least six dwelling units per 10 acres, as well as land used for industrial and commercial purposes, golf courses, landfills, airports, sewage treatment, and water-control structures.[12]

The project site is not designated by the California Natural Resources Agency as farmland of any type and is not the subject of a Williamson Act (a statewide agricultural land protection program) contract.[13] Furthermore, no land adjacent to or in the vicinity of the project site is designated or used as farmland.

According to California Public Resources Code Section 12220(g), "Forest Land" is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Based on the California Public Resources Code Section 4526, "Timberland" means land, other than land owned by the federal government and land designated by the State Board of Forestry and Fire Protection, as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. The project site is not considered Forest Land or Timberland. In addition, the project site is not a forest resource, nor are there forest resources in the surrounding areas.[14]

4.2.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in	☐	☐	☐	☒

12 California Department of Conservation. 2014. *Santa Clara County Important Farmland 2012.* August. Available: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/scl12.pdf. Accessed: September 27, 2016.

13 County of Santa Clara. 2016. Williamson Act Properties. Last edited on March 16. Available: https://www.arcgis.com/home/webmap/viewer.html?webmap=328429a3701a444485f31982cbdd9c71&extent=-122.5019,36.6904,-120.9103,37.6838. Accessed: September 27, 2016.

14 City of Santa Clara. 2014. *General Plan Land Use Diagram Phase II: 2015-2023 and General Plan Land Use Diagram Phase III: 2023-2035.* Updated December 9. Available: http://santaclaraca.gov/home/showdocument?id=4499. Accessed: September 27, 2016.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				
4. Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.2.1 Agricultural and Forest Resources Impacts

The project site is not used or zoned for agricultural purposes or for forest land. The project site is not designated by the Department of Conservation as farmland of any type and is not the subject of a Williamson Act contract. None of the properties adjacent to the project site or in the project vicinity are used for agriculture or forestry. As a result, implementation of the project would not affect agricultural or forest resources or result in the loss of designated agricultural land. **(No Impact)**

4.2.3 Conclusion

The project would have no impact on agricultural or forest lands or agricultural activities. **(No Impact)**

4.3 AIR QUALITY

Unless otherwise noted, the following discussion of potential impacts related to air quality is based on the *Air Quality and Greenhouse Gas Technical Report* (AQTR) prepared for the project, which is included in Appendix B of this Initial Study.[15]

4.3.1 Setting

4.3.1.1 Climate and Topography

The City is located in the Santa Clara Valley within the San Francisco Bay Area Air Basin. 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 to the north by the San Francisco Bay and 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 follows along the valley's northwest-southwest axis.

[15] Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050*. November.

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.

4.3.1.2 Regional and Local Criteria Pollutants

Major criteria pollutants, listed in "criteria" documents by the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide, and suspended particulate matter (PM). These pollutants can have health effects such as respiratory impairment and heart/lung disease symptoms.

Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The Bay Area as a whole does not meet state or federal ambient air quality standards for ground level ozone and fine particulate matter ($PM_{2.5}$) and state standards for respirable particulate matter (PM_{10}). The area is considered attainment or unclassified for all other pollutants.

4.3.1.3 Local Community Risks/Toxic Air Contaminants and Fine Particulate Matter

Besides criteria air pollutants, there is another group of substances found in ambient air referred to as Toxic Air Contaminants (TACs). These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods.

$PM_{2.5}$ is a complex mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust and wood smoke. Long-term and short-term exposure to $PM_{2.5}$ can cause a wide range of health effects. Common stationary source types of TACs and $PM_{2.5}$ include gasoline stations, dry cleaners, and diesel backup generators which are subject to permit requirements. The other, often more significant, common source is motor vehicles on freeways and roads.

4.3.1.4 Sensitive Receptors

The Bay Area Air Quality Management District (BAAQMD) defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, schools and school playgrounds, parks and playgrounds, child-care centers, retirement homes, convalescent homes, hospitals and medical clinics. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. The closest existing sensitive receptors are residential dwellings located approximately 400 feet west of the project site.

4.3.1.5 Applicable Plans, Policies, and Regulations

Federal, State, and Regional

Federal, state, and regional agencies regulate air quality in the Bay Area Air Basin, within which the project site is located. At the federal level, the USEPA is responsible for overseeing implementation of the Federal Clean Air Act and its subsequent amendments (CAA). CARB is the state agency that regulates mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. As required by the Federal Clean Air Act, National

Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, O_3, particulate matter, including PM_{10} and $PM_{2.5}$, sulfur oxides, and lead. The State of California has also established the California Ambient Air Quality Standards (CAAQS).

The City is within BAAQMD, which is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. 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 BAAQMD prepared and adopted the Bay Area 2010 CAP. The 2010 CAP updates the most recent ozone plan, the 2005 Ozone Strategy. Unlike previous Bay Area CAPs, the 2010 CAP is a multi-pollutant air quality plan addressing four categories of air pollutants:

1. Ground-level ozone and the key ozone precursor pollutants (reactive organic gases and nitrogen oxide), as required by State law;
2. Particulate matter, primarily $PM_{2.5}$, as well as the precursors to secondary $PM_{2.5}$;
3. TAC; and
4. Greenhouse gases.

4.3.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☒	☐	☐
4. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
5. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

4.3.2.1 Significance Thresholds

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the Lead Agency and must be based to the extent possible on scientific and factual data. The City and other Lead Agencies in the San Francisco Bay Area Air Basin often utilize the thresholds and methodology for assessing air emissions and/or health effects adopted by BAAQMD based upon the scientific and other factual data prepared by BAAQMD in developing those thresholds.

In December 2010, the California Building Industry Association (BIA) filed a lawsuit in Alameda County Superior Court challenging TACs and $PM_{2.5}$ thresholds adopted by BAAQMD in its 2010 CEQA Air Quality Guidelines *(California Building Industry Association vs. Bay Area Air Quality Management District [CBIA v. BAAQMD]*, Alameda County Superior Court Case No. RG10548693). One of the identified concerns is inhibiting infill and smart growth in the urbanized Bay Area. On March 5, 2012, the Superior Court found that the adoption of thresholds by the BAAQMD in its CEQA Air Quality Guidelines is a CEQA project and BAAQMD is not to disseminate officially sanctioned air quality thresholds of significance until BAAQMD fully complies with CEQA. Although a lower court ruling put the adoption of the guidelines on hold, with a ruling that BAAQMD had to complete a CEQA analysis to adopt the guidelines, the lower court ruling was overturned by the appellate court who ruled that adoption of guidelines and thresholds is not considered a project subject to CEQA review and adoption of the significance thresholds was not arbitrary and capricious.

The Court of Appeal's decision was subsequently appealed to the California Supreme Court, which granted limited review to the issue of whether CEQA requires "an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project." This challenge relates to the applicability of TAC standards based on the effect of existing pollutant sources on new development. In light of the litigation regarding the 2010 CEQA Guidelines, BAAQMD is no longer recommending their use. In December 2015, the Supreme Court ruled in favor of the plaintiff, finding that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents."[16]

BAAQMD at present has no recommendation to local lead agencies on the use of the 2011 guidelines. However, there is no court order constraining their use, and they are frequently employed by lead agencies when conducting CEQA reviews because the evidence in the BAAQMD 2011 guidelines still provides a substantial evidence-based approach to air quality impact analyses and BAAQMD-recommended significance thresholds.

Notwithstanding the CBIA lawsuit, which has no binding or preclusive effect on the City's discretion to decide on the appropriate thresholds to use for determining the significance of air quality impacts, the City has carefully considered the thresholds previously prepared by BAAQMD and regards the thresholds listed below to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and PM2.5. The City has consistently applied these BAAQMD thresholds in its prior environmental documents. Evidence supporting these thresholds has been presented in the following documents:

1. BAAQMD. *Thresholds Options and Justification Report.* 2009.
2. BAAQMD. *CEQA Air Quality Guidelines.* May 2011. (Appendix D).

---

[16] The *CBIA v. BAAQMD* ruling provides several exceptions to the general rule regarding analysis of a project's impact on the environment: 1) if a project would exacerbate existing environmental hazards (e.g., expose hazardous waste that is currently buried), 2) if a project qualifies for certain specific exemptions (e.g., certain housing projects or transportation priority projects, per PRC 21159.21(f),(h); 21159.22(a),(b)(3); 21159.23(a)(2)(A); 21159.24(a)(1),(3); or 21155.1(a)(4),(6)), 3) if project occupants would be exposed to potential noise or safety impacts due to proximity to an airport (per PRC 21096), and 4) if the project is a school project that requires assessment of certain environmental hazards (per PRC 21151.8). None of these exceptions apply to the project.

3. California Air Pollution Control Officers Association (CAPCOA). *Health Risk Assessments for Proposed Land Use Projects*. 2009.
4. California Environmental Protection Agency, California Air Resources Board (CARB). *Air Quality and Land Use Handbook: A Community Health Perspective*. 2005.

Localized Carbon Monoxide Concentrations

Heavy traffic congestion can contribute to high levels of CO, and individuals exposed to such hot spots may have a greater likelihood of developing adverse health effects. BAAQMD has adopted screening criteria that provide a conservative indication of whether project-generated traffic would cause a potential CO hot spot. If the screening criteria are not met, a quantitative analysis through site-specific dispersion modeling of project-related CO concentrations would not be necessary, and the project would not cause localized violations of CO CAAQS. BAAQMD's CO screening criteria are summarized below.

1. The proposed project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
2. The proposed project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).
3. The proposed project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.

The following analysis is based upon the general methodologies in the most recent BAAQMD CEQA Air Quality Guidelines (dated May 2012) and numeric thresholds for the San Francisco Bay Basin, including the thresholds listed in Table 4.3-1

TABLE 4.3-1
BAAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	**Construction**	**Operation-Related**	
	Average Daily Emissions (pounds/day)	**Average Daily Emissions (pounds/day)**	**Maximum Annual Emissions (tons/year)**
ROG, NOx	54	54	10
PM10	82 (exhaust)	82	15
PM2.5	54 (exhaust)	54	10
Fugitive Dust (PM10/PM2.5)	BMPs	None	None
Risk and Hazards for New Sources and Receptors (Project)	Same as Operational Threshold	Increased cancer risk of >10.0 in one million Increased non-cancer risk of > 1.0 Hazard Index (chronic or acute) Ambient $PM_{2.5}$ increase: > 0.3 μ/m^3 [Zone of influence: 1,000-foot radius from property line of source or receptor]	
Risk and Hazards for New Sources and Receptors (Cumulative)	Same as Operational Threshold	Increased cancer risk of >100 in one million	Risk and Hazards for New Sources

TABLE 4.3-1 BAAQMD THRESHOLDS OF SIGNIFICANCE			
Pollutant	**Construction**	**Operation-Related**	
	Average Daily Emissions (pounds/day)	**Average Daily Emissions (pounds/day)**	**Maximum Annual Emissions (tons/year)**
		Increased non-cancer risk of > 10.0 Hazard Index (chronic or acute) Ambient $PM_{2.5}$ increase: > 0.8 μ/m^3 [Zone of influence: 1,000-foot radius from property line of source or receptor]	and Receptors (Cumulativ e)
Odors		Five confirmed complaints per year averaged over three years	Odors
Sources: BAAQMD Thresholds Options and Justification Report (2009) and BAAQMD CEQA *Air Quality Guidelines* (dated May 2011).			

4.3.3 Air Quality Impacts

4.3.3.1 Bay Area 2010 Clean Air Plan Consistency

The 2010 Clean Air Plan (CAP) is based on Association of Bay Area Governments' (ABAG) projections. Under BAAQMD's 2011 CEQA Guideline methodology, for consistency with the 2010 CAP, a project or plan must demonstrate that vehicle miles traveled (VMT) or vehicle trips may not exceed projected population increases and that the project or plan implements transportation control measures (TCMs) as applicable. This approach was revised in the 2012 BAAQMD CEQA Guidelines, which holds that a project would be considered consistent with the 2010 CAP if the project would not result in significant and unavoidable air quality impacts after the application of all feasible mitigation. The project's 29 employees would not induce trips or VMT in excess of projected population growth, induce substantial population growth in the City, or substantially alter the City's jobs/housing ratio. While the 2010 CAP does not impose a specific TDM requirement on developments with a Heavy Industrial land use designation, the project would include the following elements, or alternative equivalents, in a TDM Program to promote the reduction of VMT and resulting greenhouse gas emissions:

- Pre-tax deductions for employee transit costs;
- Flexible work schedules and opportunities to telecommute;
- Bicycle parking and storage facilities;
- Showers for employees walking, biking, or taking alternative modes of transportation to work;
- Video conferencing software;
- Four electric vehicle charging stations that would serve nine electric vehicle parking spots;
- Preferred carpool/vanpool and electric vehicle parking; and
- On-site food and beverage amenities to reduce off-site traffic trips.

The project would not result in substantial growth that would be inconsistent with ABAG projections, nor would it result in emissions in excess of BAAQMD thresholds identified in Table 4.3-1 (refer to Tables

4.3-2 and 4.3-4). Thus, the project would not conflict with the 2010 CAP. **(Less Than Significant Impact)**

4.3.3.2 Construction Impacts of the Project

Construction Emissions

Project construction has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, and truck hauling trips. In addition, fugitive dust emissions would result from removal of the existing structure and grading. Criteria pollutant emissions generated by these sources were quantified using the California Emissions Estimator Model (CalEEMod), version 2016.3.1, defaults as well as construction activity (i.e. number of construction equipment items, equipment horsepower, etc.) and scheduling activity (i.e. construction phase start and end dates) provided by the project applicant. The data used in the construction analysis are provided in the AQTR. Construction is expected to occur in four phases from 2017 to 2022. A maximum of two phases would occur simultaneously. This analysis assumes that construction would occur five days a week.

Estimated construction emissions for the project are summarized in Table 4.3-2. Emissions associated with each phase are compared individually to BAAQMD thresholds.

TABLE 4.3-2
ESTIMATED DAILY CONSTRUCTION CRITERIA POLLUTANT EMISSIONS FROM THE PROJECT (POUNDS PER DAY)

Construction Phase	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Phase 1	5.3	28	1.5	1.4
Phase 2	3.5	14	0.71	0.68
Phase 3	4.5	21	1	1
Phase 4	3	11	0.47	0.45
BAAQMD Threshold	54	54	82	54
Exceed Threshold?	No	No	No	No

Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

As shown in Table 4.3-2, construction of the project would not generate reactive organic gases (ROG), nitrogen oxides (NO_X), or PM exhaust in excess of BAAQMD's numeric thresholds. The BAAQMD CEQA Guidelines consider dust impacts to be less than significant through the application of best management practices (BMPs), which the applicant would implement in accordance with standard construction practices. Dust impacts and associated dust BMPs are discussed below. Impacts for ROG, NO_x, and PM exhaust would be less than significant. **(Less Than Significant Impact)**

Community Risk Impacts

BAAQMD considers ultra-fine ($PM_{2.5}$) particle emissions to be the diesel particulate matter (DPM) of greatest health concern. The BAAQMD has determined that construction activities occurring at distances within 1,000 feet of a sensitive receptor may pose a health risk. Since the nearest residential receptor is approximately 400 feet west of the project site, DPM concentrations at nearby residential and recreational locations were modeled using the USEPA's AERMOD (Version 15181) model. Long-term health impacts (cancer risk, chronic hazard index [HI], and $PM_{2.5}$ concentration) and acute hazards were evaluated consistent with guidance in BAAQMD's CEQA guidelines and the 2015 California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) Hot Spots Guidance.

Table 4.3-3 shows the excess lifetime cancer risk, chronic non-cancer HI, acute non-cancer HI, and annual $PM_{2.5}$ concentration at the Maximally Exposed Individual Sensitive Receptor (MEISR) during project construction. As shown in Table 4.3-3, construction of the project would not result in cancer or non-cancer health hazards in excess of BAAQMD thresholds. **(Less Than Significant Impact)**

TABLE 4.3-3
ESTIMATED CONSTRUCTION HEALTH IMPACTS AT THE MAXIMALLY EXPOSED INDIVIDUAL SENSITIVE RECEPTOR[A]

Location	Cancer Risk Impact (per one million)	Chronic Non-Cancer Hazard Index (unitless)	Acute Non-Cancer Hazard Index (unitless)	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Maximally Exposed Individual Sensitive Receptor	3.54	0.0021	0.20	0.012
BAAQMD Threshold	10	1.0	1.0	0.3
Exceed Threshold?	No	No	No	No

Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050*. November.

Notes:

[a] The AQTR and modeling output files are included in Appendix B of this Initial Study.

Dust Generation

BAAQMD considers fugitive dust emissions to be significant without BMPs. Consequently, dust emissions generated by project construction activities would be potentially significant.

Impact AQ-1: Dust emissions generated by project construction activities could result in a significant impact. **(Significant Impact)**

Mitigation Measures:

The following mitigation measure outlines BAAQMD-recommended BMPs to control fugitive dust.

MM AIR-1.1: *Implement BAAQMD Basic Construction Mitigation Measures to Reduce Construction-Related Emissions.* The project applicant shall require all construction contractors to implement the basic construction mitigation measures recommended by BAAQMD, which would reduce fugitive dust emissions to a less-than-significant level. Emission reduction measures shall include, at a minimum, the following measures. Additional measures may be identified by BAAQMD or contractor as appropriate.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material 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 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified 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.

Implementation of the identified mitigation measure would control fugitive dust and reduce this impact to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

4.3.3.3 Operational Impacts to Regional and Local Air Quality

Operational Emissions

Operation of the project would generate emissions primarily associated with mobile, area, energy, and stationary sources. Each of these sources was taken into account in calculating the project's long-term operational emissions as described below.

Stationary Source Emissions

The project would include 32 emergency diesel generators to be used in the event of power grid failure. The generators would be tested routinely to ensure they would function during an emergency, and, during the routine testing, criteria pollutants would be emitted directly from the generators. Emissions from generator testing were quantified using information provided by the project applicant, which is summarized in the AQTR. It was assumed, based on information provided by the project applicant and generator reliability test records from similar data center sites, that testing would occur for no more than 50 hours per year, as stated in the Airborne Toxic Control Measure for Stationary Toxic Compression Ignition Engines (Section 93115, Title 17, CCR).

Daily emissions rates were averaged over the period of a year since the emergency generators could potentially be tested at any time of day or day of year. Per BAAQMD's Rule 2-2, new sources that emit more than 10 tons per year of NO_X must fully offset emissions to net zero. Stationary source emissions are shown in Table 4.3-4. As shown in Table 4.3-4, annual NO_X emissions from the emergency generators would total approximately 33 tons per year. Accordingly, the BAAQMD will provide offsets for stationary source NO_X emissions (i.e., the emergency generators) from the BAAQMD small facility bank.

Area, Energy, Mobile, and Stationary Source Emissions

The project would result in area and energy source emissions associated with normal facility operation and maintenance. Area sources include landscaping activities, consumer products (e.g., cleaning products), and periodic paint emissions from facility upkeep. Energy source emissions generated by the project would include natural gas combustion for space heating. Area and energy source emissions were calculated using CalEEMod, based on the size of the proposed building. It should be noted that CalEEMod does not calculate criteria pollutant emissions associated with electricity consumption, so energy source criteria pollutant emissions only include the emissions from natural gas combustion.[17]

The project would also result in daily, ongoing vehicle trips to and from the project site (i.e. trips from employees, visitors, and clients), which would result in mobile source criteria pollutant emissions. Emissions from mobile sources were also calculated using CalEEMod. Area, energy, mobile, and stationary source emissions are shown in Table 4.3-4.

TABLE 4.3-4
ESTIMATED OPERATION CRITERIA POLLUTANT EMISSIONS FROM THE PROJECT (POUNDS PER DAY)

Source	ROG	NO_X	PM_{10}	$PM_{2.5}$
Area Sources	10	<1	<1	<1
Energy Sources[a]	<1	2	<1	<1
Mobile Sources	1	3	2	1
Stationary Sources	2	-[b]	<1	<1
Daily Emissions	13	6	3	1
BAAQMD Threshold	54	54	82	82
Exceed Threshold?	No	No	No	No

Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.
Notes:
[a] Criteria pollutant emissions from energy sources are only calculated from natural gas use. CalEEMod does not calculate criteria pollutant emissions produced by electricity consumption.
[b] As required by BAAQMD Rule 2-2, the BAAQMD will provide offsets for stationary source NOx emissions (i.e., the emergency generators) from the BAAQMD small facility bank. Annual NO_X emissions from the emergency generators would be approximately 33 tons per year.

As shown in Table 4.3-4, operation of the project would not generate ROG, NO_X, or PM emissions in excess of BAAQMD's numeric thresholds. **(Less Than Significant Impact)**

Carbon Monoxide Emissions

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.

Vehicle trips associated with the project would occur as employees travel to and from the project site to commute to work. Approximately 29 employees, including fourteen operations personnel, thirteen

[17] CalEEMod does calculate greenhouse gas emissions from electricity consumption. Those emissions are discussed in Section 4.7, *Greenhouse Gas Emissions*.

security personnel, and two janitors, would be employed at the project site. Security and operations personnel would be employed in shifts, resulting in a maximum of 16 employees on-site on a single day. As discussed in Section 4.16, *Transportation*, the project would generate a maximum of 410 total daily trips, including vendors, clients, visitors, and employee trips. Given the magnitude of the BAAQMD screening criteria for CO hot spots (44,000 at affected intersections and 24,000 at affected intersections where mixing is limited), it is extremely unlikely that the addition of 410 trips on any roadway in the vicinity of the project site would result in an exceedance of the BAAQMD thresholds, even in the unlikely event of all 410 trips occurring during the peak hour period. 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. **(Less Than Significant Impact)**

Community Risk Impacts

Use of each of the proposed emergency generators would occur for up to 50 hours per year for periodic testing, consistent with CARB's Airborne Toxic Control Measure for Stationary Compression Ignition Engines and Section 330.3 of BAAQMD Regulation 9, Rule 8. Section 2.3.1 from BAAQMD's Permit Handbook indicates that "typically any stationary diesel engines over 50 horsepower will require a risk screening analysis." Explicitly, BAAQMD Regulation 2, Rule 5, Section 302 specifies that an Authority to Construct permit or Permit to Operate from the BAAQMD will be denied if any new and modified sources of TACs, including generators, in excess of 50 horsepower would result in health risks in excess of 10.0 in one million or a hazard index of 1.0. BAAQMD Regulation 2, Rule 5, Section 302 is cited as the evidence in support of BAAQMD's health risk thresholds in the 2011 BAAQMD CEQA Guidelines.

Cancer or non-cancer health hazards at the MESIR were estimated using the USEPA's AERMOD and guidance from BAAQMD and OEHHA to confirm health risks would not exceed BAAQMD's thresholds or permit limits. The results of the modeling are shown in Table 4.3-5.

TABLE 4.3-5
ESTIMATED OPERATIONAL HEALTH IMPACTS AT THE MAXIMALLY EXPOSED INDIVIDUAL SENSITIVE RECEPTOR

Location	Cancer Risk Impact (per one million)	Chronic Non-Cancer Hazard Index (unitless)	Acute Non-Cancer Hazard Index (unitless)	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Maximally Exposed Individual Sensitive Receptor	0.7	0.000079	0.67	0.007
BAAQMD Threshold	10	1.0	1.0	0.3
Exceed Threshold?	No	No	No	No

Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

As shown in Table 4.3-5, operation of the project would not result in cancer or non-cancer health hazards in excess of BAAQMD thresholds. **(Less Than Significant Impact)**

Odors

Potential odor sources during construction activities include diesel exhaust from heavy-duty equipment, and the use of architectural coatings. Construction-related odors near existing receptors would be temporary in nature and dissipate as a function of distance. Potential odor sources from project operations would include diesel exhaust from trash pick-up and the use of architectural coatings during routine maintenance. When compared to existing odor sources in the vicinity of the project site, which include heavy and light industrial uses, odor impacts from project operations would be similar. Accordingly, construction and operation of the project is not expected to result in odor impacts that would exceed BAAQMD's odor thresholds (see Table 4.3-1). **(Less Than Significant Impact)**

4.3.3.4 Concurrent Construction and Operational Impacts Regional Air Quality

Construction activities occur over six years (2017 to 2022) with four distinct phases. Operation of each phase would begin within the same year construction is completed, meaning construction for the following phase could occur simultaneously with operation of previously constructed phases, beginning in 2018. A conservative estimate of overlapping emissions from simultaneous construction and operational activities were summed and are presented on a year-by-year basis in Table 4.3-6.

TABLE 4.3-6
ESTIMATED CONSTRUCTION AND OPERATION CRITERIA POLLUTANT EMISSIONS FROM THE PROJECT (TONS PER YEAR)

Source		ROG	NOx	PM_{10}	$PM_{2.5}$
2017	Construction Phase 1	0.43	4.4	0.22	0.21
	2017 Total	**0.43**	**4.4**	**0.22**	**0.21**
2018	Construction Phase 1	1.1	3.4	0.19	0.18
	Construction Phase 2	0.125	1.11	0.053	0.050
	Operational - Phase 1	0.9	0.3	0.012	0.012
	2018 Total	**2.1**	**4.8**	**0.26**	**0.24**
2019	Construction Phase 2	0.71	2.2	0.117	0.113
	Construction Phase 3	0.048	0.48	0.023	0.021
	Operational - Phases 1 & 2	1.3	0.4	0.019	0.019
	2019 Total	**2.1**	**3.1**	**0.16**	**0.15**
2020	Construction Phase 3	0.78	4.0	0.20	0.19
	Operational - Phases 1 & 2	1.3	0.4	0.019	0.019
	2020 Total	**2.1**	**4.4**	**0.22**	**0.20**
2021	Construction Phase 3	0.46	1.4	0.069	0.065
	Construction Phase 4	0.14	1.17	0.051	0.048
	Operational - Phases 1, 2 & 3	1.9	0.6	0.031	0.030
	2021 Total	**2.5**	**3.2**	**0.15**	**0.14**
2022	Construction Phase 4	0.59	1.41	0.062	0.059
	Full Operational	2.4	1.05	0.12	0.12
	2022 Total	**3.0**	**2.5**	**0.18**	**0.18**
BAAQMD Threshold		10	10	15	10
Exceed Threshold?		No	No	No	No

Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

As shown in Table 4.3-6, concurrent construction and operation of the project would not generate ROG, NO_X, or PM emissions in excess of BAAQMD's numeric thresholds. **(Less Than Significant Impact)**

4.3.3.5 Cumulative Impacts to Regional and Local Air Quality

Construction and Operational Emissions

The BAAQMD CEQA Guidelines establish numerical criteria for determining when an emissions increase is considered cumulatively considerable and thus triggers the need for a quantitative cumulative impacts assessment. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project does not exceed the identified significance thresholds, its emissions would not be cumulatively considerable, resulting in less-than-significant air quality impacts to the region's existing air quality conditions. Accordingly, since neither construction, operation, nor concurrent construction or operation of the project would result in ROG, NO_X, or PM emissions in excess of BAAQMD's numeric thresholds, implementation of the project would not result in a cumulative considerable impact on ROG, NO_X, or PM emissions (refer to Tables 4.3-2, 4.3-4, and 4.3-6). Implementation of the MM AIR-1 would control fugitive dust and reduce this impact to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

Community Risk Impacts

There are multiple sources of cumulative (existing sources and future planned) DPM emissions located within 1,000 feet of the proposed project. The BAAQMD has developed GoogleEarth files that identify health risks associated with permitted stationary sources, roads, and rail lines throughout the Santa Clara County. These files were used to identify ambient cancer and non-cancer health risks in the project area. Total cumulative health risks were calculated by adding the background health risks sources to the health risk and hazard impacts for the project. Table 4.3-7 summarizes the results of the analysis.

TABLE 4.3-7
ESTIMATED CUMULATIVE HEALTH IMPACTS AT THE MAXIMALLY EXPOSED INDIVIDUAL SENSITIVE RECEPTOR

Location	Cancer Risk Impact (per million)	Chronic Non-Cancer Hazard Index (unitless)	Acute Non-Cancer Hazard Index (unitless)	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Ambient Sources	19.4	0.08	0.00	29.6
Project Construction	3.54	0.0021	0.20	0.012
Project Operation (traffic and generators)	0.7	0	1	0.006
Total Cumulative	24	0.08	0.9	29.6
BAAQMD Threshold	100	10	10	0.8
Significant Impact?	No	No	No	No[a]

Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.
Notes:
[a] Exceedance of threshold is due to existing ambient sources located within the vicinity of the project area.

As shown in Table 4.3-7, total non-cancer $PM_{2.5}$ risks to sensitive receptors located near the project are above BAAQMD's cumulative health risk threshold. However, this exceedance is primarily the result of existing sources located within the vicinity of the project area. The proposed project's relative contribution to the exceedances of the screening thresholds is less than the BAAQMD's project-level heath thresholds and is minor compared to health risks from existing sources. Accordingly, the project would not result in a cumulatively considerable contribution to health risks. **(Less Than Significant Impact)**

4.3.4 Conclusion

The project would result in less than significant air quality impacts from project operations and would not expose sensitive receptors to significant local community risk and hazards. With implementation of the proposed mitigation measure, the project would result in a less-than-significant impact related to dust emissions during project construction. Emissions of all other pollutants during construction would be less than significant, and no sensitive receptors would be exposed to significant health risks. **(Less Than Significant Impact with Mitigation)**

4.4 BIOLOGICAL RESOURCES

The following discussion of existing and proposed landscape trees on the project site is based on the *Tree Assessment* and *Schematic Landscape Plan* prepared for the project (refer to Figure 3.0-10).[18][19]

4.4.1 Setting

4.4.1.1 Existing Habitat

The project site is comprised of three parcels used for industrial warehouses, manufacturing, and office purposes as well as associated surface parking.

The closest open space to the project site is Larry J. Marsalli Park, which is 0.6 mile south of the project site. There are no wetlands or other sensitive habitats located on or adjacent to the project site.[20] The nearest waterways are the highly disturbed San Tomas Aquino Creek, approximately 1.2 miles west of the project site, and the Guadalupe River, approximately 1.2 miles east of the project site.

4.4.1.2 Special Status Species

Special status plant and wildlife species are not expected to occur on the highly urbanized project site. There are several non-native volunteer shrubs along the east side of Parcel 224-40-001 that may provide habitat and food sources for native migratory birds and raptors in the project site. Migratory birds and raptors are protected by the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.) and the California Fish and Game Code (CFGC) Section 3503, which reads, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

---

[18] Arborwell. *Tree Assessment for 651, 725-825 Mathew Street, Santa Clara, CA*. September 19. See Appendix A of this Initial Study.

[19] *Schematic Landscape Plan*, Planning Submittal for the McLaren Project, September 30, 2016.

[20] City of Santa Clara. 2014. *City of Santa Clara 2010-2035 General Plan*. Updated December 9. Available: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan. Accessed: September 29, 2016.

4.4.1.3 Trees

There are no trees and limited landscaping present on the project site.[21] The limited landscaping includes several non-native volunteer shrubs along the east side of the project site, including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree.

4.4.1.4 Applicable Plans, Policies, and Regulations

General Plan Policy and City Code

The provision of landscaping and trees in the community is addressed in both the Santa Clara General Plan and Santa Clara City Code. General Plan Policy 5.10.1-P4 indicates that it is the City's policy to protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other healthy trees over 36 inches in circumference measured from 48 inches above-grade on private and public property, as well as in the public right-of-way. General Plan Policy 5.3.1-P10 calls for new development to provide street trees and a minimum 2:1 on- or off –site replacement of removed trees to help increase the urban forest and minimize the heat island effect.

The Santa Clara General Plan also seeks to preserve the overall tree canopy and preserve recognized historically, architecturally, and/or culturally significant resources that relate to the heritage of the City. As such, the City has developed a Heritage Tree Inventory that identifies significant trees. General Plan Policy 5.10.1-P3 requires preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan.

Furthermore, according to Santa Clara City Code Section 12.35.020, no tree, plant, or shrub planted or growing in the streets or public places of the City shall be altered or removed without obtaining a written permit from the Superintendent of Streets Department. No person without such authorization shall trench around or alongside of any such tree, plant, or shrub with the intent of cutting the roots thereof or otherwise damaging the same.[22]

Habitat Conservation Plan

The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other approved local, regional, or state habitat conservation plan.

4.4.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations,	☐	☐	☐	☒

[21] Arborwell. 2016. *Tree Assessment for 651, 725-825 Mathew Street, Santa Clara, CA*. September 19.

[22] City of Santa Clara. 2014. *City of Santa Clara 2010-2035 General Plan*. Updated December 9. Available: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan. Accessed: September 29, 2016.

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?				
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐	☒
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☒	☐	☐
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

4.4.2.1 Impacts on Habitats

Because of the development history in the project area, no natural or sensitive habitats are present on the project site. As a result, no substantial impacts on natural plant communities or habitats would occur as a result of the project. The nearest waterways, San Tomas Aquino Creek and Guadalupe River, both of which are highly disturbed and located more than one mile from the project site, would not be affected by project construction activities. **(No Impact)**

4.4.2.2 Impacts on Special Status and Protected Species

As previously discussed, special status plant and wildlife species are not expected to occur on the project site. However, while unlikely, migratory birds and raptors could use the non-native volunteer shrubs located along the east side of the project site for nesting. Potential construction impacts on nesting birds are discussed below.

Potential Construction Impacts on Nesting Raptors and Migratory Birds

Although trees are not present on the project site, there are several non-native volunteer shrubs along the east side of the project site that could provide potential suitable nesting habitat for numerous bird species that are protected by the MBTA and CFGC. Ground disturbance, demolition or modification of structures, and construction-generated noise and vibration could result in the direct or indirect mortality of nesting birds through crushing, parental abandonment of young, reduced fitness, reduction in number of available prey, and degradation or loss of habitat. The destruction of a nest or egg of any bird, fatality of a bird, or nest abandonment would constitute a significant impact.

Impact BIO-1: Although unlikely at this location, construction during the nesting season could impact protected raptors and/or migratory birds. Loss of fertile eggs or individual nesting birds, or nest abandonment, would constitute a significant impact. **(Significant Impact)**

Mitigation Measures:

The following mitigation measure will avoid possible impacts on nesting birds during construction.

MM BIO-1.1: The following measures shall be implemented prior to and during ground disturbance and preliminary grading activities at the project site.

- Avoidance of Nesting Bird Season. To the extent feasible, construction shall be scheduled outside the avian nesting season to avoid impacts on nesting birds (including raptors) protected under the MBTA and CFGC. The nesting season for birds in Santa Clara County generally extends from January 1 through September 1.
- Pre-construction/Pre-disturbance Surveys for Nesting Birds. If construction activities cannot be scheduled outside of the nesting season noted above, pre-construction surveys for nesting birds shall be completed by a qualified biologist to identify any active nests that could be disturbed during project implementation. Surveys shall be completed no more than 7 days prior to the initiation of ground disturbance and preliminary grading. During this survey, the biologist shall inspect the volunteer shrubs along the eastern perimeter of the project site. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist shall determine the extent of a disturbance-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 no nests of species protected by the MBTA and CFGC will be disturbed during project construction.
- A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the Director of Community Development prior to the start of ground disturbance, grading, and/or tree removal activities.

Implementation of the identified mitigation measure would reduce construction impacts on protected raptors and other migratory birds to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

4.4.2.3 Impacts on Trees

As discussed previously, the City of Santa Clara General Plan seeks to preserve recognized historic, architectural, and/or cultural resources that relate to the heritage of the City. In so doing, the City has developed a Heritage Tree Inventory that identifies significant trees protected from removal.

There are no trees and limited landscaping present on the project site. Thus, the project would not involve the removal of trees. Approximately 120 new trees (including London Plane, Coast Live Oak, and Brisbane Box trees) would be planted around the perimeter of the project site and along the central access drive. **(No Impact)**

4.4.2.4 Consistency with Applicable Plans, Policies, and Regulations

As discussed previously, the project would be consistent with the City's policies and regulations to protect biological resources, including those in the City of Santa Clara General Plan and the Santa Clara City's Code. **(Less Than Significant Impact)**

In addition, the project site is not subject to an approved Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan; therefore, no impact would occur. **(No Impact)**

4.4.3 Conclusion

With implementation of the proposed mitigation measure, the project would have a less than significant impact on biological resources **(Less Than Significant Impact with Mitigation)**

4.5 CULTURAL RESOURCES

4.5.1 Setting

According to the Santa Clara General Plan, all areas of the City hold potential for the presence of prehistoric and archaeological resources, with the exception of current and former stream channels and areas with artificial fill. All other native soil types present in the City, flood basin, levee deposits on the west side of the Guadalupe River, and alluvial floodplains, have a high potential for the presence of buried prehistoric deposits. Thus, although there are no existing conditions or immediate evidence that would suggest the presence of historic or prehistoric resources, the project site is located in a culturally sensitive area due to the known prehistoric and historic occupation of Santa Clara.

4.5.1.1 Regulatory Setting

California Environmental Quality Act: California Register of Historical Resources

Buildings over 50 years of age require evaluation under the California Register of Historical Resources (CRHR), as age-eligible buildings may be considered to be cultural resources for the purposes of CEQA. According to the CEQA Guidelines Section 15064.5, a historical resource is defined as "a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources," a resource "included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public resources Code." In order to be eligible for listing in the CRHR, a property must meet at least one of the following criteria: (1) is associated with events that have made a significant contribution to the broad patterns for California's history and cultural heritage; (2) is associated with the lives of persons important in history; (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; (4) has yielded, or may be likely to yield, information important in prehistory or history.[23]

General Plan Policy

The City is rich with archaeological and paleontological resources, including the Santa Clara Mission, Native American burial grounds, the Berryessa Adobe, and many others listed in the Santa Clara General Plan. The Santa Clara General Plan ensures that archaeological and cultural resources are protected, now and into the future, and that appropriate mitigation measures for unforeseen impacts are enforced in the event unknown resources are encountered. General Plan Policy 5.6.3-P5 requires that in the event that archaeological/paleontological resources are discovered, work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist. General Plan Policy 5.6.3-P6 indicates that in the event human remains are discovered, work with the appropriate Native American representative is to be conducted following the procedures set forth in State law.

The Criteria for Local Significance[24]

The Criteria for Local Significance was adopted on April 20, 2004, by the City of Santa Clara City Council. Any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical or archaeological significance is potentially eligible.

Criterion for Historic or Cultural Significance. To be historically or culturally significant, a property must meet at least one of the following criterion:

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

Criterion for Architectural Significance. To be architecturally significant, a property must meet at least one of the following criteria:

1. The property characterizes an architectural style associated with a particular era and/or ethnic group.
2. The property is identified with a particular architect, master builder or craftsman.
3. The property is architecturally unique or innovative.
4. The property has a strong or unique relationship to other areas potentially eligible for preservation because of architectural significance.

---

[23] California Resources Agency. *CEQA Guidelines,* Section 15064.5(a)(3). As amended October 23, 2009.

[24] California Resources Agency. *CEQA Guidelines,* Section 15064.5(a)(3). As amended October 23, 2009.

5. The property has a visual symbolic meaning or appeal for the community.
6. A building's unique or uncommon building materials, or its historically early or innovative method of construction or assembly.
7. A building's notable or special attributes of an aesthetic or functional nature. These may include massing, proportion, materials, details, fenestration, ornamentation, artwork or functional layout.

Criterion for Geographical Significance. To be geographically significant, a property must meet at least one of the following criterion:

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

Criterion for Archaeological Significance. For the purposes of CEQA, an "important archaeological resource" is one which:

1. Is associated with an event or person of

   A. Recognized significance in California or American history, or

   B. Recognized scientific importance in prehistory.

2. Can provide information, which is both of demonstrable public interest, and useful in addressing scientifically consequential and reasonable or archaeological research questions;
3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4. Is at least 100 years old and possesses substantial stratigraphic integrity; or
5. Involves important research questions that historical research has shown can be answered only with archaeological methods.

4.5.1.2 Prehistoric Resources

Archaeological sites have been found throughout Santa Clara County. Aside from the sites already identified within the City, there may be other undiscovered archaeological sites present. Native American settlements are commonly associated with the abundant food supply in the Santa Clara Valley, and they often established settlements near local waterways. The nearest waterway is the highly disturbed San Tomas Aquino Creek located 1.2 miles west of the project site. Another nearby waterway is the highly disturbed Guadalupe River, 1.2 miles east of the project site.

4.5.1.3 Historic Resources

The project site is primarily surrounded by industrial and commercial land uses. The area immediately surrounding the project site was developed largely during the early 1950s after the end of World War II. The project site includes APNs 224-40-001 (651 Mathew Street), and 224-40-002 (725 Mathew Street), both of which were developed as canneries in the late 1940s. The project site also includes APN 224-40-011 (825 Mathew Street), which is currently a parking lot and does not contain any buildings or structures.

Historical Significance and Resource Evaluation

As part of this analysis, the properties within the existing industrial warehouses, manufacturing, and office facilities on the project site (APNs 224-40-001 and 224-40-002) were recorded during a cultural resources survey on October 25, 2016, evaluated for listing in the CRHR, National Register of Historic Places (NRHP), and the local Santa Clara Historic Preservation Resource Inventory, and documented on Department of Parks and Recreation (DPR) 523 forms. The DPR forms are included in Appendices C.1 and C.2 of this Initial Study. The evaluation concluded that the properties within the project site do not meet the criteria for listing in the CRHR, NRHP, or the local inventory, and thus they do not qualify as historical resources under CEQA. A summary of the evaluation under the NRHP Criteria A-D, the CRHR Criteria 1-4, and local Santa Clara Criteria for Significance for the buildings located on APNs 224-40-001 (651 Mathew Street) and 224-40-002 (725 Mathew Street) is provided below. [25]

<u>Evaluation under the National Register of Historic Places (NRHP) Criteria A-D and the California Register of Historical Resources (CRHR) Criteria 1-4</u>

Criterion A and 1 (Events)

651 Mathew Street. Diana Fruit Preserving Company was established in 1921 during the height of the canning and packing industry but decades after the industry's initial development in the area in the Santa Clara Valley. Diana Fruit contributed to the success of the Santa Clara fruit packing trade and the cherry preserving industry through the development of the coloring process under founder Alexander Diana. Thus the company achieved some local significance for its contributions to the fruit packing trade and the cherry preserving industry in particular; however, the company achieved its fame during the 1930s under the direction and leadership of its founder and 651 Mathew Street was constructed as the second site of Diana Fruit in 1949.The property therefore is not representative of Diana Fruit's significance as it is not the location of the events that gave the company its significance. Furthermore, the current property did not achieve significance on its own merit for contributions to the advancement in the fruit canning and processing industry. Although the property appears to be the last remaining example of the fruit packing industry in the City of Santa Clara, it is not however not a rare surviving or early example in Santa Clara County. An earlier and much more intact example that conveys the industry's historic character is located nearby at 198 Martha Street in San Jose, constructed in 1919 for the American Can Company. As a result, 651 Mathew Street is not eligible for listing on the NRHP under Criterion A or the CRHR under Criterion 1.

725 Mathew Street. 725 Mathew Street was constructed as a tomato canning plant for the Gangi Brothers Packing Company in 1945, long after the fruit canning and packing industry had been fully established in the Santa Clara Valley. The Gangi Brothers Packing Company started in Santa Clara during a time when the largely agricultural landscape was on the cusp of transforming into a landscape of residential subdivisions and sprawling industrial complexes. Although a late-comer to the canning and fruit packing business in Santa Clara County, the Gangi Brothers endured on the site operating as a tomato cannery for 59 years and continuing the long history of fruit packing in the region. Longevity of use however does not give the property sufficient historical significance for NRHP/CRHR eligibility under Criterion A/1. The Gangi Brothers Packing Company was one of many such tomato canneries in the region, along with Hershel California Fruit Products Co., Madonna Foods, Inc., San Jose Canning Co., and Thornton Canning Co. The Gangi Brothers did not make any significant contributions to the

[25] The following discussion summarizes the analysis included in the DPR forms provided as Appendices C.1 and C.2 of this Initial Study.

development or advancement of the canning industry. As a result, 725 Mathew Street is not eligible for listing on the NRHP under Criterion A or the CRHR under Criterion 1.

Criterion B and 2 (Person)

651 Mathew Street. The property was owned by the Diana Fruit Preserving Company, and the site was purchased for the growing business in the late 1940s by Eugene Acronico, son-in-law of founder, Alexander Diana. Acronico continued to grow the business which eventually went to his son Eugene Acronico Jr. Outside of continuing an already prosperous business, the Acronicos do not appear to have made any significant contributions to the development of the fruit canning and processing industry, nor any other contributions to local, state or national history. Although Alexander Diana appears to be a person of historical significance for his important contributions to the development of the cherry packing industry, the subject property itself is not the place where his important work was accomplished. The subject property therefore, is not eligible for listing on the NRHP under Criterion B or the CRHR under Criterion 2.

725 Mathew Street. The property was owned by the Gangi Brothers Packing Company and was operated and presided over by Valentino, John, Peter and Anthony Gangi Jr. The brothers started their joint venture in 1945, which lasted until the youngest brother's death in 2004. The Gangi brothers appeared to have come from a long family line of tomato processors and canners. Their grandfather established a tomato packing company in New York prior to the turn of the century and their father continued the family tradition in tomato processing after their move to California in 1916. The Gangi brothers established their own business on Mathew Street in Santa Clara after World War II. Although proprietors of a long-running family business, the Gangi brothers did not make any known contributions to the advancement of the tomato canning industry and did not establish their company in Santa Clara until the industry was already well-established. As such, the property is not eligible for listing on the NRHP under Criterion B or the CRHR under Criterion 2.

Criterion C and 3 (Design/Construction)

651 Mathew Street. Architecturally, the industrial style buildings on the property represent common characteristics of their type. The property includes two rows of attached and detached industrial and utilitarian cannery and warehouse buildings of varying ages that lack design cohesion. They are mainly of wood frames and exhibit elements typical of most industrial complexes constructed during the 1950s and 1960s. Due to the property's lack of architectural distinction and lack of association with known significant architect/builder, the property is not eligible for listing in the NRHP Criterion C or CRHR Criterion 3.

725 Mathew Street. Architecturally, the industrial style buildings on the property represent common characteristics of their respective building types. The property includes two rows of attached industrial and utilitarian storage buildings of varying ages that lack design cohesion. They are mainly constructed of wood frame and exhibit elements typical of most industrial complexes constructed during the 1950s and 1960s. The only known architect for the property is a Bothelia and Perez who designed and built the Scale House, Office Building and Warehouse in 1965-1968. Bothelia and Perez appear to have been little-known local contractors. Due to the property's lack of architectural distinction and lack of association with a significant architect/builder, the property is not eligible for listing in the NRHP Criterion C or CRHR Criterion 3.

Criterion D and 4 (Information Potential)

Neither 651 Mathew Street nor 725 Mathew Street appear to be significant under NRHP Criterion D or CRHR Criterion 4 as a source, or likely source, of important historical information related to the built environment, and it does not appear likely to yield important information about historic construction methods, materials, or technologies.

Evaluation under the Criteria for Local Significance

Historic or Cultural Significance

651 Mathew Street. The Diana Fruit Company appears to have some local significance as a company "associated with a significant industrial, institutional, commercial, agricultural, or transportation activity." However, Diana Fruit's historical significance is closely tied to its creator Alexander Diana's contributions to the cherry packing industry during the 1930s, which occurred at the company's original location at 215 Monroe Street. The property has no physical connection to the significance of the Diana Fruit Company under Alexander Diana and, therefore, the property is not eligible for local listing under the Criterion for Historic or Cultural Significance.

725 Mathew Street. Although the Gangi Brothers were late-comers to the canning and fruit packing business in Santa Clara County, they operated the site as a tomato cannery for 59 years, continuing the long history of fruit packing in the region. Longevity of use however does not give the property sufficient historical significance for local register eligibility. The Gangi Brothers Packing Company was one of many such tomato canneries in the region, along with Hershel California Fruit Products Co., Madonna Foods, Inc., San Jose Canning Co., and Thornton Canning Co. Although proprietors of a long-running family business, the Gangi brothers did not make any known contributions to the advancement of the canning industry and did not establish their company in Santa Clara until the industry was already well-established in the area. Therefore, the property is not eligible for local listing under the Criterion for Historic or Cultural Significance.

Architectural Significance

651 Mathew Street. The property is a common example of an industrial complex, is not associated with a known master architect or builder, is not architecturally unique or innovative, does not represent a visual symbolic meaning for the community, nor does it possess notable attributes of an aesthetic or functional nature. Therefore, the property is not eligible for local listing under the Criterion for Architectural Significance.

725 Mathew Street. The property is a common example of an industrial complex, is not associated with a known master architect or builder, is not architecturally unique or innovative, does not represent a visual symbolic meaning for the community, nor does it possess notable attributes of an aesthetic or functional nature. Therefore, the property is not eligible for local listing under the Criterion for Architectural Significance.

Geographical Significance

The setting of the both 651 Mathew Street and 725 Mathew Street have changed significantly since their construction and do not contribute to a neighborhood or unique area directly associated with the development of the fruit packing industry in Santa Clara. Although many of the adjacent properties are of similar light industrial uses, they do not present a visual continuity of character similar in design and compatibility to 651 Mathew Street and 725 Mathew Street. There does not appear to be the potential for a historical district that would include the properties as a contributor. Therefore, the properties do not appear to meet the local Criterion for Geographical Significance.

Archaeological Significance

651 Mathew Street and 725 Mathew Street are not subject to this criterion because they do not qualify as an "archaeological resource."

Integrity

651 Mathew Street. The property at 651 Mathew Street has undergone several changes over time. Many of the cannery buildings and warehouses have been extensively remodeled and expanded in a number of incompatible additions over the years including the removal of many of the tanks from the property between 1960 and 1980, the remodel of the south wall of the 1950 cannery building ca. 1980, and complete remodel of the central 1965 warehouse in 2009. In addition, a number of the cannery buildings have been demolished including the boiler room and one of the 1965 warehouse buildings. The property was originally located on 215 Monroe Street in Santa Clara where it achieved its historical significance and moved to the subject property in 1949. According to historic aerials and the historical data, the surrounding area was predominantly made up of scattered industrial properties with large swaths of agricultural parcels during the first decade after the construction of the property. Overall, the property has low integrity in its aspects of location, setting, design, materials, and workmanship. The property retains its association and feeling as a fruit packing industry in Santa Clara as it continues in its historic use and contains some of the original cannery and packing warehouse buildings constructed on the subject property. The definition of integrity in the Santa Clara Historic Preservation and Resource Inventory follows the seven aspects of integrity of the NRHP and states furthermore that "to retain historic integrity, a property will always possess several, and usually most, of these aspects." Therefore, the property does not retain historic integrity.

725 Mathew Street. The property at 725 Mathew Street has undergone several changes over time. The original cannery and the remains of the boiler room are dilapidated and missing original features and the façade of the original cannery building is not visible behind a storage structure. The other former cannery buildings and warehouses have been extensively remodeled and expanded in a number of incompatible additions over the years. In addition, a number of the cannery buildings have been demolished including the boiler room addition, scale house and scales and sheds fronting Mathew Street. According to historic aerials and the historical data, the surrounding area was predominantly scattered industrial properties with large swaths of agricultural parcels during the first two decades of the construction of the property. Overall, the property has low integrity in its aspects of location, setting, design, materials, workmanship, association and feeling. The definition of integrity in the Santa Clara Historic Preservation and Resource Inventory follows the seven aspects of integrity of the NRHP and states furthermore that "to retain historic integrity, a property will always possess several, and usually most, of these aspects." The property does not retain any of the seven aspects of integrity, and therefore does not retain historic integrity.

4.5.1.4 Paleontological Resources

Paleontological resources are fossilized remains of organisms from prehistoric environments found in geologic strata. Paleontological sites are those areas where the remains of prehistoric living forms is preserved. They are sometimes identified from outcroppings visible on the earth's surface or sites encountered during grading. While such sites are important finds, it is the geologic formations themselves that are indicative of the potential presence of paleontological resources, because if a geologic formation contains paleontological resources in one locality, it has potential to contain them anywhere the formation occurs.

Geologic units of the Holocene age are generally not considered sensitive for paleontological resources, because biological remains younger than 10,000 years are not usually considered fossils. These sediments have low potential to yield fossil resources or contain significant nonrenewable paleontological resources. However, these recent sediments may overlie older sediments with high potential to contain paleontological resources. Some older sediments have potential to yield fossil remains of extinct species, including extinct terrestrial vertebrates.

Surficial deposits at the project site are Basin Deposits of Holocene age.[26] Recent research suggests that the Quaternary alluvium of the Santa Clara Valley may be "more paleontologically sensitive than previously recognized"[27] As discussed below, late Pleistocene vertebrate fossils have been found from multiple localities across Santa Clara Valley, including Lawrence Expressway East, San Jose; Santa Clara Valley Water District lands in the Guadalupe River in San Jose; Sunnyvale Sewer, Sunnyvale; Calabaza Creek, Sunnyvale; and Milpitas, as well as multiple localities farther north.

UCMP V91128 Lawrence Expressway E, San Jose, California. *Mammuthus.* Discovered near the intersection of US 101 and Lawrence Expressway interchange in "sandy gravel deposits 15 feet above sea level and 9 feet below the modern surface."

UCMP V99597 Santa Clara Valley Water District Mammoth ("Lupe"), San Jose, California. *Mammuthus columbi*. Recovered from Guadalupe River bottom just downstream from the Norman Y. Mineta San Jose International Airport, in hardpan about 11.5 feet below the modern floodplain and 14.8 feet below sea level.

USGS M1218 Sunnyvale Sewer, Sunnyvale, California. *Ursus* sp. *Equus* sp., *Bison* sp., *Camelops* sp., *Thomomys bottae*. *Ursidae* Fischer, 1817, Recovered near the intersection of Briton and Taylor Avenues.

USGS M1218A Calabaza, Sunnyvale Sewer, Sunnyvale, California. *Urocitellus beldingi* (originally reported as *Spermophilus beldingi*), *Equidae* Gray, 1821, *Camelops* sp. Recovered near the intersection of Briton and Taylor Avenues.

UCMP V4916, Milpitas, Milpitas, California. *Bison*. Approximately 1.5 miles west of Milpitas and approximately 0.2 mile west of the channel of Coyote Creek in a pear orchard on Jackson Ranch. Found in soil or subsoil in a sandy layer at about 2 feet deep.

All of the localities listed above and all but two of the northern localities referenced in Maguire and Holroyd (2016) are mapped with surficial Holocene deposits and are shallow. These occurrences "demonstrate that older sediments and fossils (>10 ka [thousand years before present]) occur at or very near the surface in these areas," particularly because the amount, association, and orientation of the fossils from these localities indicate that the sediments in which they occur had not been reworked through geologic or artificial processes.[28] Accordingly, Pleistocene alluvium may be more widespread and

---

26 Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825, Mathew Street, Santa Clara, California, 95050*. November.

27 Maguire, K.C. and Holroyd, P.A. 2016. Pleistocene vertebrates of Silicon Valley (Santa Clara County, California). *PaleoBios* 33(0). Available: http://escholarship.org/uc/item/3k43832x. Accessed: October 28, 2016.

28 Maguire, K.C. and Holroyd, P.A. 2016. Pleistocene vertebrates of Silicon Valley (Santa Clara County, California). *PaleoBios* 33(0). Available: http://escholarship.org/uc/item/3k43832x. Accessed: October 28, 2016.

shallower in the Santa Clara Valley than was previously thought and Pleistocene fossils resources could be present across the Santa Clara Valley.

4.5.1.5 Applicable Plans, Policies, and Regulations

General Plan Policy

The City is rich with archaeological and paleontological resources, including the Santa Clara Mission, Native American burial grounds, the Berryessa Adobe, and many others listed in the Santa Clara General Plan. The Santa Clara General Plan ensures that archaeological and cultural resources are protected, now and into the future, and that appropriate mitigation measures for unforeseen impacts are enforced in the event unknown resources are encountered. General Plan Policy 5.6.3-P5 requires that in the event that archaeological/paleontological resources are discovered, work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist. General Plan Policy 5.6.3-P6 indicates that in the event human remains are discovered, work with the appropriate Native American representative is to be conducted following the procedures set forth in State law.

Additionally, the Criteria for Local Significance, which was adopted on April 20, 2004 by the City of Santa Clara City Council, states that "any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical or archaeological significance is potentially eligible" for local listing. The criteria is detailed in the section 4.5.1.1 above.

4.5.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	☐	☐	☐	☒
2. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☒	☐	☐
3. Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☒	☐	☐
4. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

4.5.2.1 Impacts on Subsurface Prehistoric and Historic Resources

There are no existing conditions or immediate evidence that would suggest the presence of buried prehistoric or paleontological resources on the project site. However, the project site is in the vicinity of San Tomas Aquino Creek and Guadalupe River, as previously discussed, and development of the project could result in the exposure or destruction of unknown subsurface historic and/or prehistoric resources, as discussed below.

Potential Impacts on Subsurface Historic and/or Prehistoric Resources

The project would demolish the existing on-site industrial warehouses, manufacturing, and office facilities, and adjacent surface parking and construct two four-story, approximately 206,500-gsf data center buildings and an electrical substation. Ground-disturbing activities would include surface grading, trenching for utilities, and the installation of deep piles or deep ground improvements to support the foundations of the buildings. While unlikely, construction activities could potentially result in the exposure or destruction of unknown subsurface historic and/or prehistoric resources. The exposure or destruction of subsurface prehistoric resources would be considered a significant impact.

Impact CR-1: Although there are no known prehistoric or historic archaeological deposits on or directly adjacent to the site, future development under the project could result in the exposure or destruction of as yet undiscovered subsurface prehistoric archaeological resources. If the exposure or destruction of subsurface prehistoric resources were to occur, it would be considered a significant impact. (**Significant Impact**)

Mitigation Measures:

The following project-specific mitigation measures shall be printed on all construction documents and implemented during construction to avoid significant impacts on subsurface historic and/or prehistoric resources:

MM CR-1.1: A qualified archaeologist shall be on site to monitor grading of native soil once all pavement is removed from the project site. 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 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.

MM CR-1.2: In the event that prehistoric or historic resources are encountered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped, the Director of Community Development shall be notified, and a qualified archaeologist or paleontologist 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.

MM CR-1.3: In the event that human remains are discovered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission

(NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial, which shall be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines.

Implementation of the identified mitigation measures would reduce impacts on subsurface historic and/or prehistoric resources to a less-than-significant level. **(Less than Significant Impact with Mitigation)**

4.5.2.2 Impacts on Historic Resources

As previously discussed, two parcels on the project site include buildings and structures over 50 years of age (APNs 224-40-001 and 224-40-002). The evaluation performed as part of this analysis concluded that the properties within the project site do not meet the criteria for listing in the CRHR, NRHP or the local register and thus they do not qualify as CEQA historical resources. The evaluation concluded that the industrial cannery properties do not meet the criteria for listing in the CRHR under Criteria 1 (events), 2 (person), 3 (architecture) or 4 (information potential). The cultural resources survey performed as part of this analysis did not identify any additional historical resources within the project site. In addition, the properties within the project site are not listed nor eligible for listing as locally significant architectural or historic properties in the City of Santa Clara General Plan's Historic Preservation and Resource Inventory.[29] A detailed recordation, historic context, and CRHR evaluation of the project site is included in Appendices C.1 and C.2 of this Initial Study and summarized above in Section 4.5.1, *Setting*.

Based on the above analysis, the project site is not a historical resource for the purposes of CEQA. Therefore, demolition of the existing structures on the project site and the construction of the proposed data center buildings would not alter the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines. Therefore, the proposed project would have no impact related to historical resources. **(No Impact)**

4.5.2.3 Impacts on Paleontological Resources

The fossil-yielding potential of geologic units in a particular area depends on the geologic age and origin of the underlying rocks as well as on the processes that the rocks have undergone, both geologic and anthropogenic.[30] The methods used to analyze potential impacts on paleontological resources involved the following steps.

- Identify the geologic units in the paleontological study area.
- Evaluate the potential of the identified geologic units to contain significant fossils (their *paleontological sensitivity*).
- Identify and evaluate impacts on paleontologically sensitive geologic units as a result of project and program construction and operations that involve ground disturbance.
- Evaluate impact significance.

The project's potential to affect paleontological resources relates to ground disturbance. Ground disturbance caused by project implementation would take place only during construction. This, this analysis addresses construction impacts.

---

[29] City of Santa Clara General Plan. 2014. *General Plan – Appendix 8.9*.

[30] *Anthropogenic* means caused by human activity.

To evaluate the paleontological sensitivity of the geologic units, the geologic units present at the project site were evaluated and current literature was consulted.[31,32]

Next, the paleontological sensitivity of the geologic units was assessed. The Impact Mitigation Guidelines Revisions Committee of the Society of Vertebrate Paleontology published Standard Guidelines in 2010. The Standard Guidelines include procedures for the investigation, collection, preservation, and cataloguing of fossil-bearing sites. The Standard Guidelines are widely accepted among paleontologists and are followed by most investigators. The Standard Guidelines identify the two key phases of paleontological resource protection as (1) assessment and (2) implementation. Assessment involves identifying the potential for a project site or area to contain significant nonrenewable paleontological resources that could be damaged or destroyed by project excavation or construction. Implementation involves formulating and applying measures to reduce such adverse effects. The Society of Vertebrate Paleontology defines the level of potential as one of four sensitivity categories for sedimentary rocks: High, Undetermined, Low, and No Potential.[33]

- **High Potential.** Assigned to geologic units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered; and sedimentary rock units suitable for the preservation of fossils ("e.g., middle Holocene and older, fine-grained fluvial sandstones…fine-grained marine sandstones, etc."). Paleontological potential consists of the potential for yielding abundant fossils, a few significant fossils, or "recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data."
- **Undetermined Potential.** Assigned to geologic units "for which little information is available concerning their paleontological content, geologic age, and depositional environment." In cases where no subsurface data already exist, paleontological potential can sometimes be assessed by subsurface site investigations.
- **Low Potential.** Field surveys or paleontological research may allow determination that a geologic unit has low potential for yielding significant fossils, e.g., basalt flows. Mitigation is generally not required to protect fossils.
- **No Potential.** Some geologic units have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Mitigation is not required.

Based on data from the *Geotechnical Investigation* prepared for the project (discussed in Section 4.6, *Geology and Soils*) and current paleontological literature, the subsurface geologic unit in the study area was assigned a paleontological sensitivity of High Potential according to the Society of Vertebrate Paleontology's Standard Guidelines. Significant vertebrate fossils have been recovered from this geologic unit. Thus, similar fossils could be recovered at the project site.

Direct or Indirect Destruction of a Unique Paleontological Resource or Site

There are two options for the building foundations: a deep pile system consisting of auger cast displacement piles; and a rigid mat foundation combined with a deep ground improvement method.[34]

---

[31] Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

[32] Maguire, K.C. and Holroyd, P.A. 2016. Pleistocene vertebrates of Silicon Valley (Santa Clara County, California). *PaleoBios* 33(0). Available: http://escholarship.org/uc/item/3k43832x. Accessed: October 28, 2016.

[33] Society of Vertebrate Paleontology. 2010. *Standard Guidelines*.

[34] Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November. It is noted that subsequent to the preparation of the *Geotechnical Investigation* prepared for the project, the project applicant determined that a third foundation option that is

Ground-disturbing activities would include surface grading, trenching for utilities, and the installation of deep piles or deep ground improvements to support the foundations of the buildings. Both foundation options could affect paleontological resources. The auger cast displacement pile option would extend from 90 up to 120 feet below ground surface. The rigid mat foundation combined with a deep ground improvement method option would replace soil and would drill ground columns up to depths to be specified by the ground improvement contractor. Because the subsurface geologic unit at the project site is assigned a paleontological sensitivity of High Potential, the potential exists for activities related to the construction of the foundation to uncover and damage significant paleontological resources.

Impact CR-2: Although there are no known paleontological resources underlying the site, future development under the project could result in the exposure or destruction of as yet undiscovered subsurface paleontological resources. If the exposure or destruction of subsurface paleontological resources were to occur, it would be considered a significant impact. (**Significant Impact**)

Mitigation Measures:

The following project-specific mitigation measure shall be printed on all construction documents and implemented during construction to avoid significant impacts on subsurface paleontological resources:

MM CR-2.1: Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology , who is experienced in teaching non-specialists, to ensure they can recognize fossil materials and shall follow proper notification procedures in the event any are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate its significance.

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

Direct or Indirect Destruction of a Unique Geological Resource or Site

There are no unique geological resources at the project site.

---

discussed in the *Geotechnical Investigation* (a deep pile system consisting of driven, precast, prestressed concrete piles) is not feasible for the project site.

4.5.3 Conclusion

With the implementation of the proposed mitigation measures, the project would have a less-than-significant impact on subsurface historic and/or prehistoric resources. **(Less Than Significant Impact with Mitigation)**

The project would result in no impact on historic resources. **(No Impact)**

With the implementation of the proposed mitigation measure, the project would result in a less-than-significant impact on paleontological resources. **(Less Than Significant Impact with Mitigation)**

4.6 GEOLOGY AND SOILS

Unless otherwise noted, the following discussion of potential impacts related to geology and soils is based on the *Geotechnical Investigation* prepared for the project, which is included in Appendix D of this Initial Study.[35]

4.6.1 Setting

4.6.1.1 Geology and Soils

The project site is in the Santa Clara Valley, a relatively broad and level alluvial basin, bounded by the San Francisco Bay to the north, the Santa Cruz Mountains to the west and southwest, and the Diablo Mountain Range to the east and southeast. The Santa Clara Valley's basin contains alluvial deposits derived from the Diablo Range and the Santa Cruz Mountains.[36]

The majority of the project site is underlain by Holocene age (less than 11,000 years old) Basin Deposits (Qhb). The basin deposits are generally described as dark-colored clay with very fine silty clay, rich in organic material, and deposited beyond the levees and flood plains in the flood basins where stilling flood waters drop their finest sediment. Based on borings conducted at the project site, the site is underlain predominately by fine-grained alluvium consisting of clays and silts interbedded with discontinuous layers of coarse-grained alluvium consisting of sands and gravels. The maximum cumulative thickness of coarse-grained alluvium encountered was approximately 35 feet. The fine-grained alluvium encountered is predominantly medium stiff to hard and the coarse-grained alluvium is predominantly medium dense to very dense. The weaker medium stiff compressible clay layers appear to be discontinuous across the site and vary in thickness.

The near-surface material at the project site is highly expansive. Expansive soil can undergo volume changes with changes in moisture content. Specifically, when wetted as during the rainy season, expansive soil tends to swell and when dried as during the summer months, this material shrinks. Structures and flatwork supported on expansive soil tend to experience cyclic, seasonal heave, and settlement.

---

35 Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

36 City of Santa Clara. 2011. *Integrated Final Environmental Impact Report, City of Santa Clara Draft 2010-2035 General Plan.* January. Available: http://santaclaraca.gov/home/showdocument?id=12900. Accessed: October 6, 2016.

There are no unique geologic features on or adjacent to the project site. The topography of the project site and the surrounding area is relatively flat.

4.6.1.2 Groundwater

Seasonal fluctuations, drainage patterns, and other factors can affect the groundwater level. According to the *Geotechnical Investigation*, groundwater was encountered between 6 to 11 feet below grade at the project site. According to recent pore pressure dissipation tests conducted at the project site, groundwater was encountered between depths of 0.5 to 6.7 feet below grade at the project site.

4.6.1.3 Seismicity and Seismic Hazards

The San Francisco Bay Area is one of the most seismically active areas in the United States. The project site is not located within the limits of an Alquist-Priolo Earthquake Fault Zone. While seismologists cannot predict earthquake events, the U.S. Geological Survey's Working Group on California Earthquake Probabilities estimates there is a 63 percent chance of at least one magnitude 6.7 earthquake occurring in the Bay Area in the next 30 years. Higher levels of shaking and damage would be expected for earthquakes occurring at closer distances. The faults considered capable of generating significant earthquakes in the area are generally associated with the well-defined areas of crustal movement, which trend northwesterly.

Three northwest-trending major earthquake faults (the San Andreas fault, the Hayward fault, and the Calaveras fault) that comprise the San Andreas fault system extend through the Bay Area. Table 4.6-1 lists nearby active faults and their respective distances from the project site. As shown in Table 4.6-1, in addition to the major earthquake faults, one of the many traces of the Monte Vista – Shannon fault zone is also near the project site.

TABLE 4.6-1
ACTIVE FAULTS NEAR THE PROJECT SITE

Fault	Approximate Distance From Project Site (miles)	Location with Respect to Project Site
San Andreas	10	Southwest
Hayward	6	Northeast
Calaveras	9	Northeast
Monte-Vista—Shannon	7	Southwest

Source: Murray Engineers. 2016. Geotechnical Investigation, Vantage Data Centers, 651, 725, 825, Mathew Street, Santa Clara, California, 95050. November.

Liquefaction

Soil liquefaction is a condition in which saturated granular soils near the ground surface undergo a substantial loss of strength due to increased pore water pressure resulting from cyclic stress applications induced by earthquakes or other vibrations. In the process, the soil acquires mobility sufficient to permit both vertical and horizontal movements, if not confined. Soils most susceptible to liquefaction are loose, uniformly graded, fine-grained, sands and loose silts with very low cohesion. According to the *Geotechnical Investigation*, the State seismic hazards maps relevant to the project site indicate the project site is located in an area considered potentially susceptible to earthquake-induced liquefaction.

Lateral Spreading

Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying soil alluvial material toward a free face (such as the steep bank of a stream channel). The nearest waterway is the highly disturbed San Tomas Aquino Creek, approximately 1.15 mile west of the project site. Another nearby waterway is the Guadalupe River, approximately 1.23 mile east of the project site. However, because the topography of the project site is flat and there are no open faces or slopes near the project site, the potential for lateral spreading at the project site is considered low.

4.6.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
a. Rupture of a known earthquake fault, as described on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒
b. Strong seismic ground shaking?	☐	☐	☒	☐
c. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
d. Landslides?	☐	☐	☒	☐
2. Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
3. Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
4. Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☒	☐
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

As discussed in Section 4.3, *Air Quality*, the California Supreme Court concluded in the CBIA v. BAAQMD decision that "CEQA generally does not require analysis of how existing environmental conditions will impact a project's future users or residents." With this ruling, CEQA no longer considers the impact of the environment on a project (such as the impact of existing seismic hazards on new project receptors) to be an impact requiring consideration under CEQA. Therefore, the following discussions of seismic and soil hazards are provided for informational purposes only.

4.6.2.2 Seismic Hazards

As previously discussed, the project site is located within the seismically active San Francisco Bay region. As shown in Table 4.6-1, the Hayward fault is 6 miles from the project site and is the closest active fault to the project site. Because the fault is not within the limits of an Alquist-Priolo Earthquake Fault Zone, surface fault rupture is unlikely. Although the project site is not located on or adjacent to a major earthquake fault, severe ground shaking is probable during the useful life of the project. In addition, the project site is located within an earthquake-induced liquefaction hazard zone, so there is potential for some of the looser granular and low-plasticity soil layers underlying the project site to liquefy during a major earthquake event. However, because the topography of the project site is flat and there are no open faces or slopes near the site, the potential for lateral spreading is low.

The design of the project, including the building foundations, would accommodate any such differential settlement. There are two options for the building foundations: a deep pile system consisting of auger cast displacement piles; and a rigid mat foundation combined with a deep ground improvement method.[37] The project would be designed and constructed in accordance with the current (2016) California Building Code and standard engineering safety techniques, including site preparation, compaction, trench excavation, and drainage. In addition, the project applicant would be required to prepare a geotechnical engineering report with project-specific design specifications subject to review and approval by the City Building Official prior to issuance of permits. With implementation of seismic design guidelines in the current California Building Code and project-specific recommendations in a final geotechnical engineering report, the project would not expose people or property to significant impacts associated with geologic or seismic conditions onsite. **(Not a CEQA Impact; Provided for Informational Purposes Only)**

4.6.2.3 Erosion

Construction activities associated with the project (e.g., excavation and grading) could temporarily increase sedimentation and erosion by exposing on-site soils to wind and runoff.

Impact GEO-1: Project implementation could increase erosion and sedimentation until construction is complete and new vegetation is established. **(Significant Impact)**

Mitigation Measures:

The following mitigation measures would reduce erosion impacts during construction.

MM GEO-1.1: All excavation and grading work shall be scheduled in dry weather months, or the construction sites shall be weatherized to withstand or avoid erosion.

MM GEO-1.2: Stockpile and excavated soils shall be covered with secured tarps or plastic sheeting.

MM GEO-1.3: Vegetation in disturbed areas shall be replanted as quickly as possible.

---

[37] Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California.* November. It is noted that subsequent to the preparation of the *Geotechnical Investigation* prepared for the project, the project applicant determined that a third foundation option that is discussed in the *Geotechnical Investigation* (a deep pile system consisting of driven, precast, prestressed concrete piles) is not feasible for the project site.

Implementation of the identified mitigation measures would reduce erosion impacts to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

4.6.2.4 Soil Hazards

Slope Failure

As previously discussed, the topography of the project site and surrounding area is relatively flat. Therefore, the project would not be exposed to landslide-related hazards, and the potential for exacerbating existing slope failure related hazards during operation would be low. **(Less Than Significant Impact)**

Expansive Soils

As previously discussed, expansive soils are present at the project site. The near-surface material is highly expansive. The at-grade structures or hardscape outside of the proposed buildings would be susceptible to seasonal expansive soil movement. However, with implementation of the recommendations presented in the *Geotechnical Investigation*, including implementation of either of the proposed foundation options (a deep pile system consisting of auger cast displacement piles or a rigid mat foundation combined with a deep ground improvement method), shrink and swell of the surficial soil would not have a significant impact on the structural integrity of the proposed improvements. The project would be designed to withstand soil hazards at the project site (e.g., expansive soils) and the project would not, therefore, result in substantial risks to life or property. **(Not a CEQA Impact; Provided for Informational Purposes Only)**

Soils for Septic Systems and Alternative Wastewater Disposal Systems

The project would be connected to the City's existing sanitary sewer system and would not use any septic systems or alternative wastewater disposal systems (refer to Section 4.17, *Utilities and Service Systems*).

4.6.3 Conclusion

With the implementation of the proposed mitigation measures, the project would have a less-than significant impact with mitigation on geology and soils. **(Less Than Significant Impact with Mitigation)**

4.7 GREENHOUSE GAS EMISSIONS

Unless otherwise noted, the following discussion of potential impacts related to greenhouse gas (GHG) emissions is based on the *Air Quality and Greenhouse Gas Technical Report* (AQTR) prepared for the project, which is included in Appendix B of this Initial Study.[38]

4.7.1 Setting

Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of GHGs have a broader, global impact. Global warming associated with the "greenhouse effect" is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principal GHGs contributing to global warming and associated climate

[38] Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050*. November.

change are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors.

4.7.1.1 Applicable Plans, Policies, and Regulations

Agencies at the international, federal, State, and local levels are considering or have adopted strategies to control emissions of GHG that contribute to global warming. Several key plans and policies are described below.

Federal

Although there is currently no federal overarching law specifically related to climate change or the reduction of GHG, the USEPA is developing regulations under the federal CAA that may be adopted pursuant to the USEPA's authority under the CAA in the next two years. Foremost among recent developments have been the settlement agreements between the USEPA, several states, and nongovernmental organizations to address GHG emissions from electric generating units and refineries; the U.S. Supreme Court's decision in *Massachusetts v. EPA;* and the EPA's "Endangerment Finding," "Cause or Contribute Finding," and Mandatory Reporting Rule. Although periodically debated in Congress, there is no federal legislation concerning GHG emissions limitations. In *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the U.S. Court of Appeals upheld the USEPA's authority to regulate GHG emissions under the CAA.

State

California has adopted statewide legislation addressing various aspects of climate change and GHG emissions mitigation. Much of this establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. In the absence of federal regulations, control of GHGs is generally regulated at the state level and is typically approached by setting emission reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans. Summaries of key policies, regulations, and legislation at the state level that are relevant to the project are described below in chronological order.

Executive Order S-03-05 (2005)

Executive Order (EO) S-03-05 is designed to reduce California's GHG emissions to (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80 percent below 1990 levels by 2050.

Assembly Bill 32 (AB 32)—California Global Warming Solutions Act (2006)

AB 32 (Health and Safety Code § 38500 et seq.) codified the state's GHG emissions target by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. Since adoption of the act, CARB, California Energy Commission (CEC), California Public Utilities Commission (CPUC), and the Building Standards Commission have been developing regulations that will help meet the goals of AB 32 and EO S-03-05. The 2008 *Climate Change Scoping Plan* for AB 32 (2008 Scoping Plan) identifies specific measures to reduce GHG emissions to 1990 levels by 2020, and requires CARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. Specifically, the 2008 Scoping Plan articulates a key role for local governments, recommending they establish GHG reduction goals for both their municipal operations and the community consistent with those of the state. The first update to the 2008 Scoping Plan, the *First Update to the AB 32 Scoping Plan* (2014 First

Update) was released in February 2014 and includes revised GHG reduction estimates based on updated statewide GHG inventories.

CARB is currently working on the Second Update to the AB 32 Scoping Plan, which will outline policies and actions for meet's the state's 2030 GHG emission target, as outlined under Senate Bill (SB) 32 (discussed below). The Second Update to the AB 32 Scoping Plan, the 2017 Climate Change Scoping Plan Update, was released on January 20, 2017 for public comment.

Senate Bill 375 (SB 375)—Sustainable Communities Strategy (2008)

SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans (RTPs), and funding priorities in order to help California meet the GHG reduction goals established in AB 32.[39] SB 375 requires RTPs, developed by metropolitan planning organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS). The goal of the SCS is to reduce regional VMT through land use planning and consequent transportation patterns.

The Metropolitan Transportation Commission (MTC) and ABAG adopted the Sustainable Communities Strategy and the 2040 Regional Transportation Plan, titled *Plan Bay Area*, in July 2013. The Metropolitan Transportation Commission is currently working on a strategic update to the SCS, called *Plan Bay Area 2040*, which builds on prior work to develop an efficient transportation network, provide more housing choices, and grow the region in a financially and environmentally responsible way. *Plan Bay Area* expressly states that it does not require any changes to local land use policies or environmental review processes. [40]

Senate Bills 1078/107/X 1-2, Renewable Portfolio Standard and Renewable Energy Resources Act (2002, 2006, 2011)

SBs 1078 and 107, California's Renewables Portfolio Standard (RPS), obligated investor-owned utilities energy service providers and Community Choice Aggregations to procure an additional one percent of retail sales per year from eligible renewable sources until 20 percent was reached by 2010. CPUC and CEC are jointly responsible for implementing the program. SB X 1-2, called the California Renewable Energy Resources Act, obligates all California electricity providers to obtain at least 33 percent of their energy from renewable resources by 2020.

California Energy Efficiency Standards for Residential and Nonresidential Buildings—Green Building Code (2011), Title 24 Update (2014)

The Green Building Standards Code (CALGreen) applies to the planning, design, operation, construction, use, and occupancy of newly constructed buildings and requires the installation of energy- and water-efficient indoor infrastructure for all new projects beginning after January 1, 2011. CALGreen also requires newly constructed buildings develop a waste management plan and divert at least 50 percent of the construction materials generated during project construction.

Administrative regulations to CALGreen Part 11 and the California Building Energy Efficiency Standards were adopted in 2016 and took effect on January 1, 2017. The 2016 Energy Efficiency Standards are 25

---

[39] California Government Code Sections 14522.1, 14522.2, 65080, 65080, 65080.01, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588, and Public Resources Code Sections 2161.3, 21155, 21159.28.

[40] Metropolitan Transportation Commission. 2013. *Plan Bay Area: Strategy for a Sustainable Region*. Metropolitan Transportation Agency and Association of Bay Area Governments. Adopted: July 18, 2013. Available: <http://files.mtc.ca.gov/pdf/Plan_Bay_Area_FINAL/Plan_Bay_Area.pdf>. Accessed: June 20, 2016.

percent more efficient than previous standards for residential construction. Part 11 also established voluntary standards that became mandatory in the 2010 edition of the code, including planning and design for sustainable site development, energy efficiency, water conservation, material conservation, and internal air contaminants. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

The next set of energy efficiency standards are the 2016 Energy Efficiency Standards, which were adopted in 2016 and took effect on January 1, 2017. According to the CEC, single-family homes built to the 2016 standards will use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards. While the 2016 standards do not require zero net energy (ZNE) buildings, the 2019 standards are expected to take the final step toward achieving ZNE for newly constructed residential buildings throughout California. Later standards are expected to require ZNE for newly constructed commercial buildings.

State CEQA Guidelines (2010)

The State CEQA Guidelines require lead agencies to describe, calculate, or estimate the amount of GHG emissions that would result from a project. Moreover, the State CEQA Guidelines emphasize the necessity to determine potential climate change effects of a project and propose mitigation as necessary. The State CEQA Guidelines confirm the lead agency's discretion to determine the appropriate significance threshold, but require the preparation of an environmental impact report (EIR) if "there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with adopted regulations or requirements" (Section 15064.4).

State CEQA Guidelines Section 15126.4 includes considerations for lead agencies related to feasible mitigation measures to reduce GHG emissions, which may include, among others, measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision; implementation of project features, project design, or other measures that are incorporated into the project to substantially reduce energy consumption or GHG emissions; offsite measures, including offsets that are not otherwise required.

The California Supreme Court has held that the Scoping Plan's statewide goal of reducing GHG emissions by 29 percent from business as usual in order to meet AB 32's target can be used as a threshold of significance for GHG emissions (*Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204) (henceforth referred to as Newhall Ranch). However, if applied to a local project, the EIR must provide supporting evidence that the project emissions relate to the Scoping Plan. The Court stated, in overturning the application of the Scoping Plan goal to an individual project:

> *At bottom, the court found EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas emissions reduction effort required by the state as a whole, and attempting to use that method, without consideration of any changes or adjustments, for a purpose very different from its original design: To measure the efficiency and conservation measures incorporated in a specific land use development proposed for a specific location.*

Senate Bill 350—De Leon (Clean Energy and Pollution Reduction Act of 2015) (2015)

SB 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) a renewables portfolio standard of 50 percent and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of the CPUC and CEC.

Senate Bill 32 and Assembly Bill 197 (2016)

SB 32 requires CARB to ensure that statewide GHG emissions are reduced to at least 40 percent below 1990 levels by 2030. The companion bill, AB 197, creates requirements to form a Joint Legislative Committee on Climate Change Policies, requires CARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires CARB to prepare reports on sources of GHGs and other pollutants, establishes six-year terms for voting members of CARB, and adds two legislators as non-voting members of CARB.

Regional

Plan Bay Area

Consistent with the requirements of SB 375 (or the Sustainable Communities and Climate Protection Act of 2008) which requires regional transportation plans to be developed by each MPO (as described above), the MTC has partnered with ABAG, BAAQMD, and the Bay Conservation and Development Commission (BCDC) to prepare the region's SCS as part of the RTP process. The SCS is referred to as *Plan Bay Area*.

MTC and ABAG adopted *Plan Bay Area* in July 2013. The strategies in the plan are intended to promote compact, mixed-use development close to public transit, jobs, schools, shopping, parks, recreation, and other amenities, particularly within Priority Development Areas (PDAs) identified by local jurisdictions.

Bay Area 2010 Clean Air Plan

The Bay Area 2010 CAP addresses air emissions in the San Francisco Bay Area Air Basin. One of the key objectives in the 2010 CAP is climate protection. The 2010 CAP includes emission control measures and performance objectives, consistent with the State's climate protection goals under AB 32 and SB 375, designed to reduce emissions of GHGs to 1990 levels by 2020 and 40 percent below 1990 levels by 2035.

BAAQMD CEQA Guidelines

BAAQMD identifies sources of information on potential thresholds of significance and mitigation strategies for operational GHG emissions from land-use development projects in its CEQA Guidelines. The BAAQMD CEQA Guidelines also outline a methodology for estimating GHGs.

In jurisdictions where a qualified GHG reduction strategy has been reviewed under CEQA and adopted by decision-makers, compliance with the GHG reduction strategy would reduce a project's contribution to cumulative GHG emission impacts to a less-than-significant level[41]. As described below, the City of Santa Clara adopted a qualified GHG reduction strategy on December 3, 2013.

---

41 The required components of a "qualified" GHG reduction strategy or plan are described in both Section 15183.5 of the CEQA Guidelines and the BAAQMD CEQA Air Quality Guidelines (amended 2012).

Local

City of Santa Clara General Plan

The Santa Clara General Plan includes policies that address the reduction of GHG emissions during the planning horizon of the General Plan. Goals and policies that address sustainability (see Appendix 8.13: Sustainability Goals and Policies Matrix in the Santa Clara General Plan) are aimed at reducing the City's contribution to GHG emissions. As described below, the development of a comprehensive GHG emissions reduction strategy for the City is also included in the Santa Clara General Plan.

Climate Action Plan

The City of Santa Clara has a comprehensive GHG emissions reduction strategy (Climate Action Plan or CAP) to achieve its fair share of statewide emissions reductions for the 2020 timeframe consistent with AB 32, the Global Warming Solutions Act. The CAP was adopted on December 3, 2013. The City of Santa Clara CAP specifies the strategies and measures to be taken for a number of focus areas (coal-free and large renewables, energy efficiency, water conservation, transportation and land use, waste reduction, etc.) citywide to achieve the overall emission reduction target, and includes an adaptive management process that can incorporate new technology and respond when goals are not being met.

A key reduction measure that is being undertaken by the City of Santa Clara under the CAP is in the Coal-Free and Large Renewables focus area. The City operates SVP, a publicly owned utility that provides electricity for the community of Santa Clara, including the project site. Since nearly half (48 percent) of Santa Clara's GHG emissions result from electricity use, removing GHG-intensive sources of electricity generation (such as coal) is a major focus area in the CAP for achieving the City's GHG reduction goals. This measure is being undertaken by SVP.

CEQA clearance for all discretionary development proposals are required to address the consistency of individual projects with reduction measures in the 2010 CAP and goals and policies in the Santa Clara General Plan designed to reduce GHG emissions. Compliance with appropriate measures in the CAP would ensure an individual project's consistency with an adopted GHG reduction plan. Projects that are consistent with the CAP would have a less than significant impact related to GHG emissions in 2020.

4.7.1.2 Existing Conditions

The project site is used for industrial warehouses, manufacturing, and office purposes as well as associated surface parking. GHG emissions from traffic trips to and from the project site are minimal.

4.7.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

GHG emissions worldwide contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single land use project could generate sufficient GHG emissions on its own to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects in the City, the entire state of California, and across the nation and around the world, contribute cumulatively to the phenomenon of global climate change and its associated environmental impacts.

AB 32 establishes the requirement for reducing statewide GHGs to 1990 emissions levels by 2020. A number of air quality management agencies throughout the state have drafted or adopted varying threshold approaches and guidelines for analyzing 2020 operational GHG emissions in CEQA documents. The different thresholds include (1) compliance with a qualified GHG reduction strategy, (2) performance-based reductions, (3) numeric “bright-line” thresholds, (4) compliance with regulatory programs, and (5) efficiency-based thresholds. The California Supreme Court decision in Newhall Ranch decision confirmed that when an “agency chooses to rely completely on a single quantitative method to justify a no-significance finding, CEQA demands the agency research and document the quantitative parameters essential to that method.”

The Newhall Ranch decision also identified the need to analyze both near-term and post-2020 emissions, as applicable, stating that an “EIR taking a goal-consistency approach to CEQA significance may in the near future need to consider the project’s effects on meeting longer term emissions reduction targets.” All current CEQA GHG threshold concepts recommended by expert agencies are based on AB 32’s requirement to reduce statewide GHG emissions to 1990 levels by 2020. However, SB 32 establishes a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. State and local air district guidance on addressing project-level GHG impacts in relation to the 2030 target outlined under SB 32 is forthcoming. While not legally binding on local land use agencies, EO S-03-05 has set forth a longer-term reduction target to reduce GHG emissions by 80 percent below 1990 levels by 2050 (see Section 4.7.1, *Setting*).

In light of the Newhall Ranch decision, the following section discusses each of the five threshold approaches recommended by the California Supreme Court and analyzes its specific applicability to the project.

Compliance with a qualified GHG reduction strategy. As discussed in Section 4.7.1, *Setting*, the City of Santa Clara adopted a CAP in 2013. The CAP was prepared consistent with CEQA Guidelines Sections 15183.5 and includes a 2020 GHG reduction target based on AB 32 goals. Projects that are consistent with the CAP may tier from the environmental analysis prepared for the CAP and determine GHG impacts in 2020 to be less than cumulatively considerable. While the CAP includes a post-2020 target, it does not currently include sufficient strategies to achieve the goal. Accordingly, projects with operational emissions beyond 2020 cannot tier from the CAP. Since the proposed project will not be complete until 2023, it is not eligible to use the CAP to evaluate full-build emissions. However, consistency with the CAP framework is considered since many of the policies will likely be carried forward by the City to address post-2020 emissions.

Performance-based reductions. Performance-based thresholds are based on a percentage reduction from a projected future condition (for example, reducing future business-as-usual (BAU) emissions by the AB 32 target of 29 percent (below 2020 BAU levels) through a combination of State measures, project design features (e.g., renewable energy), or mitigation). With the Newhall Ranch decision, relating a given project to the achievement of State reduction targets requires adjustments to ARB’s statewide BAU model not only to isolate new development emissions, but also to consider unique geographic conditions that would be required to use the BAU performance-based methodology for a specific project. To date, this type of adjustment to the statewide BAU target has not been formulated and, therefore, is not appropriate for the project's analysis.

Numeric "bright-line" thresholds. The BAAQMD has adopted a threshold of 1,100 metric tons carbon dioxide equivalent (CO_2e) for land use development projects and a threshold of 10,000 metric tons CO_2e for stationary source projects. The land use development threshold is explicitly tied to AB 32 and does not consider deeper reductions that will be required post-2020. Moreover, the threshold is specific to emissions generated by the residential and commercial uses, and does not address emissions from industrial sources. Accordingly, the land use development threshold is not applicable to the proposed project. The BAAQMD's 10,000 metric tons CO_2e threshold is consistent with stationary source thresholds adopted by other air quality management districts throughout the state. The threshold level is intended to capture 95 percent of all GHG emissions from new permit applications from stationary sources in the SFBAAB. The emergency generators included as part of the project would be permitted sources, and as such, the BAAQMD's 10,000 metric ton CO_2e threshold is appropriate for analyzing the significance of emissions generated by the generators. However, the threshold cannot be used to evaluate emissions from other project sources (e.g., building energy consumption).

Compliance with Regulatory Programs. This approach includes an assessment of the project's compliance with regulatory programs designed to reduce GHG emissions from particular activities (e.g., building efficiency, transportation, water usage). To the extent that the project's design features comply with or exceed the regulations adopted by ARB or other State agencies, the City could appropriately rely on their use as showing that the project is reducing emissions consistent with statewide legislation and, thus, that emissions are less than significant. This approach is applicable to the proposed project and used to evaluate non-stationary source GHG emissions.

Efficiency-based thresholds. BAAQMD has adopted efficiency based thresholds for land use development projects. The efficiency-based thresholds are calculated by dividing emissions associated with residential and commercial uses (also termed the "land use sector" in the AB 32 Scoping Plan) within the state (or a certain geographic area) by the sum of jobs and residents within the same geography. The sum of jobs and residents is called the "service population," and a project's service population is defined as the people that work and live within the project site. Because BAAQMD's efficiency-based thresholds are based on the land use sector (residential and commercial uses) and only account for land use-related emissions and residential population and employment, they may be misleading to use for industrial uses projects, and are therefore not applicable to the proposed project.

Based on the available threshold concepts recommended by air districts or other lead agencies and recent case law, GHG impacts from the proposed project's emergency generators would be considered less than significant if emissions are below the BAAQMD's bright-line threshold of 10,000 metric tons CO_2e per year. GHG impacts from all other project emission sources would be considered less than significant if the project is consistent with the City's CAP and applicable regulatory programs and policies adopted by ARB or other California agencies.

4.7.2.2 Overview of GHG Emissions

Construction Emissions

Construction of the project would result in GHG emissions generated by vehicle trips (i.e., construction worker and haul truck trips) and operation of construction equipment. These sources would generate

2,539 metric tons CO_2e over the course of the six-year construction-period. This is equivalent to adding 536 typical passenger vehicles for 1 year. Because construction emissions would cease once construction is complete, they are considered short-term. The BAAQMD CEQA Guidelines do not identify a GHG emission threshold for construction-related emissions. Instead BAAQMD recommends that GHG emissions from construction be quantified and disclosed. The BAAQMD further recommends incorporation of BMPs to reduce GHG emissions during construction, as feasible and applicable. BMPs may include use of alternative-fueled (e.g., biodiesel, 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 or demolition materials.

Operational Emissions

GHG emissions from the project would consist of emissions from vehicle trips to and from the proposed facility and occupancy of data server rooms, including emissions related to the generation of electricity used in the data center building. Approximately 29 employees, including fourteen operations personnel, thirteen security personnel, and two janitors, would be employed at the project site. Security and operations personnel would be employed in shifts, resulting in a maximum of 16 employees on-site in a single day. As discussed in Section 4.16, *Transportation*, there would be a maximum of 410 total daily trips, including vendors, clients, visitors, and employee trips. Data centers are an energy-intensive land use, requiring more electricity than other types of development. The primary function of the proposed data center is to house computer servers, which require electricity and cooling 24 hours a day to operate.

Silicon Valley Power Electricity Generation

Electricity for the project would be provided by SVP. The City currently has ownership interest, or has purchase agreements for nearly 1,079.15 MW of electricity.[42] This capacity far exceeds the City's current peak electricity demand of approximately 522 MW. No new generation peak capacity is necessary to meet the capacity requirements of new construction, or redeveloped facilities within the City to meet the near or projected future demand.

The City follows the State's preferred loading order in procuring new energy resources. First, the current load (customer) is encouraged to participate in energy efficiency programs to reduce their usage, thus freeing up existing resources (and any related emissions) for new load (electricity demand). In addition, the City encourages the use of renewable resources and clean distributed generation, and has seen a significant increase in its applications for large and small rooftop photovoltaics (PV). Demand displaced by customer-based renewable projects is also available to meet new load requests.

The City seeks to meet its RPS through the addition of new renewable resources. SVP has a lower emission rate than the statewide California power mix because it utilizes a much higher portion of renewable sources. A comparison of SVP's and the statewide power mix is shown in Table 4.7-1.

[42] Silicon Valley Power, City of Santa Clara. The Silicon Valley Power Resources Map. Available: <http://www.siliconvalleypower.com/home/showdocument?id=5763>. Accessed: August 11, 2016.

TABLE 4.7-1 COMPARISON OF SVP AND STATEWIDE POWER MIX		
Energy Resources	**2015 SVP Power Mix**	**2015 California Power Mix (for Comparison)**
Eligible Renewable (Biomass & waste, Geothermal, Eligible Hydro, Solar, Wind)	28.6%	21.9%
Coal	8.8%	6.0%
Large Hydro	13.2%	5.4%
Natural Gas	46.2%	44.0%
Nuclear	0.0%	9.2%
Other	0.0%	0.0%
Unspecified sources of power (not traceable to specific sources)	3.2%	13.5%
Total	100.0%	100.0%
Source: California Energy Commission. 2016. Total System Power. Available: <http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html >. Accessed: October 26, 2016; and Silicon Valley Power. No date. Power Content Label. Available: < http://www.siliconvalleypower.com/svp-and-community/about-svp/power-content-label>. Accessed: October 26, 2016.		

SVP's carbon intensity factor for 2016 was calculated as 380 pounds (0.172 metric tons) of CO_2 per megawatt-hour (MWh).[43] SVP's carbon intensity factor for electricity generation will continue to change as SVP's power mix continues to reduce the percentage of electricity produced by coal-fired power plants and increase the use of renewable resources. As noted above, the City and SVP have committed to coal-free and increased large renewables power generation as a part of the City's CAP.

Project Electricity Usage

The projected critical demand for the entire project is 54 MW and the total projected demand is 76 MW.[44] On an annual basis, the project would consume 665,760 MWh per year at full buildout.[45] The project's annual emissions related to electricity use would be about 24 percent less per year by utilizing SVP's power mix versus the California statewide average power mix.

Other Project-Related Emissions

Other sources of emissions include backup generator testing (i.e., stationary sources), water use, waste generation, mobile (vehicle), and area (landscaping) sources. Emissions from backup generator testing would result from the consumption of diesel fuel to test each generator for about 50 hours per year. Water consumption results in indirect emissions from electricity usage for water conveyance and wastewater treatment. Water consumption results in indirect emissions from electricity usage for water conveyance and wastewater treatment. As discussed in Section 4.17, *Utilities and Service Systems*, indoor uses at the project site would generate a potable water demand of approximately 20.7 million gallons of water per year, or 63.7 acre-feet per year, and a recycled water demand of 143.3 million gallons of water per year, or 439.8 acre-feet per year (primarily due to the recycled water use of the proposed cooling towers). Daily

---

43 Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050*. November.

44 Rosendin Electric. 2016. Letter to Nick Steketee. September 14. See Appendix E of this Initial Study.

45 Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050*. November.

operations at the data center would generate waste, which results in fugitive GHG emissions during decomposition. Mobile emissions associated with employees, clients, and visitors traveling to and from the site were computed in CalEEMod model, assuming a maximum of 410 daily trips.

Summary of GHG Emissions

Emissions from stationary sources (i.e., emergency generator) testing and maintenance are presented in Table 4.7-2.

TABLE 4.7-2
SUMMARY OF ESTIMATED GHG EMISSIONS FROM STATIONARY SOURCES DURING PROJECT OPERATION
(METRIC TONS PER YEAR OF CO_2E)

	Annual Emissions at Full Buildout (2023)	
Source	**Project Emissions Based Upon SVP Electric Power Use** (Metric Tons Per Year of CO_2e)	**Estimated Project Emissions Based Upon California Average Emissions Rate for Electric Power** (Metric Tons Per Year of CO_2e)
Stationary Sources – emergency generators	4,138	4,138
BAAQMD Threshold	10,000	10,000
Exceed Threshold?	No	No

Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

Emissions from electricity use, mobile and area sources, and water use and waste generation (i.e., project operation) are provided in Table 4.7-3.

TABLE 4.7-3
SUMMARY OF ESTIMATED GHG EMISSIONS FROM ELECTRICITY USE, MOBILE SOURCES, AREA SOURCES, WATER USE, AND WASTE GENERATION DURING PROJECT OPERATION
(METRIC TONS PER YEAR OF CO_2E)

	Annual Emissions at Full Buildout (2023)	
Source	**Project Emissions Based Upon SVP Electric Power Use** (Metric Tons Per Year of CO_2e)	**Estimated Project Emissions Based Upon California Average Emissions Rate for Electric Power** (Metric Tons Per Year of CO_2e)
Electricity Use	116,848	153,862
Mobile Sources – employees and visitors	435	435
Area Sources – landscaping	<1	<1
Water Use & Wastewater Generation	377	426
Waste Generation	235	235
Total	117,896	154,958

Source: Source: Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

As shown in Table 4.7-2, emergency generator testing would generate an additional 4,138 metric ton CO_2e per year. Emissions from the emergency generators are below BAAQMD's stationary source threshold and are therefore considered less than significant.

As shown in Table 4.7-3, operation of the project would generate 117,896 to 154,958 metric tons CO_2e, depending on the power provider. This emissions estimate does not include efficiency measures that would be pursued as part of the project, nor does it reflect implementation of state and local measures to reduce GHG emissions (e.g., SB 350). In order to reduce GHG emissions and reduce the use of energy related to building operations, the project chillers would be installed with variable frequency drives (VFD) to provide efficient operation. The project would comply with all applicable City and State green building measures, including Title 24, Part 6, California Energy Code baseline standard requirements for energy efficiency, based on the 2016 Energy Efficiency Standards requirements, and the 2016 California Green Building Standards Code, commonly referred to as CALGreen (California Code of Regulations, Part 11). In addition, the project would include four electrical vehicle charging stations that would serve nine electrical vehicle parking spots. Water use reduction measures would also be incorporated in the building design, including the use of recycled water in the cooling towers. Table 3.0-2 in Section 3.0, *Project Description,* lists the proposed efficiency features related to mechanical and electrical systems. Table 3.0-3 in Section 3.0, *Project Description*, lists additional energy efficiency measures associated with tenant improvements and water use reduction.

Overview: Power Usage Effectiveness During Operation

Power Usage Effectiveness, or PUE, is a metric used to compare the efficiency of facilities that house computer servers. PUE is defined as the ratio of total facility energy use to Information Technology (IT) (i.e., server) power draw (e.g., PUE = Total Facility Source Energy/ IT Source Energy). For example, a PUE of two, means that the data center or laboratory must draw two watts of electricity for every one watt of power consumed by the IT/server equipment. It is equal to the total energy consumption of a data center (for all fuels) divided by the energy consumption used for the IT equipment. The ideal PUE is one where all power drawn by the facility goes to the IT infrastructure.

Vantage Data Centers, the project applicant, builds and manages data centers for tenants. The principle of Vantage Data Centers is that modern-day data center design should evolve in innovative ways that lead to dramatic gains in energy efficiency. All of these features have an impact on the power usage of a data center. With implementation of the proposed mechanical and electrical design of the building and the anticipated data center occupancy, the PUE will be 1.5[46] at the proposed data center. The Uptime Institute conducted a study in 2014 and concluded that the average data center PUE in that year was 1.7, down from 1.89 in 2011[47]. The project would be below the 2014 average PUE (the most recent year for which data is available), resulting in a more efficient than average facility.

4.7.2.3 Consistency with Plans and Programs

Climate Action Plan

The CAP, which is part of the Santa Clara General Plan, identifies a series of GHG emissions reduction measures to be implemented by development projects that would allow the City to achieve its GHG reduction goals in 2020. The measures center around seven focus areas: coal-free and large renewables,

---

[46] Rosendin Electric. 2016. Letter to Nick Steketee. September 14.

[47] Uptime Institute. 2014. 2014 Data Center Industry Survey. Available: <https://journal.uptimeinstitute.com/2014-data-center-industry-survey/>.

energy efficiency, water conservation, waste reduction, off-road equipment, transportation and land use, and urban heat island effect.

The CAP includes measures applicable to City government, existing development and new development projects in the City. Based on the discussion of the project's conformance with the applicable reduction measures for new development in the CAP provided below, the project would be consistent with the City's CAP. **(Less Than Significant Impact)**

Energy Efficiency Measures

Measure 2.3, Data centers, calls for completion of a feasibility study of energy efficient practices for new data center projects with an average rack power rating[48] of 15 kilowatts to achieve a PUE of 1.2 or lower.

The proposed project would have an average rack power rating range of 8-10 kilowatts. This would be below the criteria in Measure 2.3, and a formal feasibility study of energy efficient practices and achievement of a PUE of 1.2 or lower is not required.

Water Conservation Measures

Measure 3.1, Urban Water Management Plan targets, calls for a reduction in per capita water use to meet Urban Water Management Plan targets by 2020. As outlined in Table 3.0-3 in Section 3.0, *Project Description*, development standards for water conservation would be applied to increase efficiency in indoor and outdoor water use areas. Furthermore, the project would comply with all applicable City and State water conservation (indoor and outdoor) measures, including Title 24, Part 6, California Energy Code baseline standard requirements for energy efficiency, based on the 2016 Energy Efficiency Standards requirements, and the 2016 California Green Building Standards Code, commonly referred to as CALGreen. Water conservation measures for the project would include the use of:

- site irrigation to be sourced from 100 percent non-potable water;
- use of recycled water in the cooling towers;
- water efficient landscaping with low usage plant material to minimize irrigation requirements will be installed and maintained; and
- ultra-low flow toilets and plumbing fixtures will be installed consistent with CalGreen mandatory measures for water reduction.

Transportation and Land Use Measures

Measure 6.3, Electric Vehicle Parking, calls for the provision of electrical vehicle charging stations in new multi-family residential and nonresidential developments. The project would include four electrical vehicle charging stations that would serve nine electric vehicle parking spots.

Urban Heat Island Effect Measure

Measure 7.2, Urban Cooling, calls for the use of materials to reduce heat gain and mitigate the urban heat island effect. The project is proposing to use a cool roof (a roof with high solar reflectivity), as shown in Table 3.0-2 in Section 3.0, *Project Description*.

[48] Average rack power rating is a measure of the power available for use on a rack used to store computer servers. The higher the value of kilowatts, the greater power density per rack and generally more energy use per square foot of building area in a data center.

Applicable General Plan Policies

The City adopted the Santa Clara General Plan to accommodate planned housing and employment growth through 2035. As part of the City's General Plan Update in 2011, new policies were adopted that address the reduction of GHG emissions during the planning horizon of the Santa Clara General Plan. In addition to the reduction measures in the Climate Action Plan, the Santa Clara General Plan includes goals and policies to address sustainability (see Appendix 8.13: Sustainability Goals and Policies Matrix in the Santa Clara General Plan) aimed at reducing the City's contribution to GHG emissions. For the project, implementation of policies that increase energy efficiency or reduce energy use would effectively reduce indirect GHG emissions associated with energy generation. The consistency of the project with the applicable land use, air quality, energy, and water policies in the Santa Clara General Plan is analyzed in Table 4.7-4. As shown, the project would be consistent with the applicable sustainability policies in the Santa Clara General Plan. **(Less Than Significant Impact)**

TABLE 4.7-4
PROJECT CONSISTENCY WITH SANTA CLARA GENERAL PLAN SUSTAINABILITY POLICIES

Emission Reduction Policies	Project Consistency
Land Use Policies	
5.3.1-P11: Encourage new developments proposed within a reasonable distance of an existing or proposed recycled water distribution system to utilize recycled water for landscape irrigation, industrial processes, cooling and other appropriate uses to reduce water use consistent with the CAP.	Consistent. The project would utilize recycled water for landscape irrigation and the cooling towers.
5.3.1-P14: Encourage Transportation Demand Management strategies and the provision of bicycle and pedestrian amenities in all new development in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled.	Consistent. The project would include bicycle and pedestrian amenities consistent with the City's requirements.
Air Quality Policies	
5.10.2-P3: Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.	Consistent. The project would include four electrical vehicle charging stations.
5.10.2-P4: Encourage measures to reduce GHG emissions to reach 30 percent below 1990 levels by 2020.	Consistent. Water conservation and energy efficiency measures included in the project would reduce GHG emissions associated with the generation of electricity.
Energy Policies	
5.10.3-P1: Promote the use of renewable energy resources, conservation and recycling programs.	Consistent. The project would utilize lighting control to reduce energy usage for new exterior lighting and air economization for building cooling. Water efficient landscaping and ultra-low flow plumbing fixtures in the proposed building would limit water consumption. In addition, the project would have a "Cool Roof" utilizing reflective surfaces to reduce heat gains. Outside Air Economizers (OAE) will be utilized to cool the top floor of the proposed buildings. The OAE controls would be configured to maximize free cooling.
5.10.3-P4: Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.	
5.10.3-P5: Reduce energy consumption through sustainable construction practices, materials and recycling.	
5.10.3-P6: Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.	
Water Policies	

TABLE 4.7-4 PROJECT CONSISTENCY WITH SANTA CLARA GENERAL PLAN SUSTAINABILITY POLICIES	
Emission Reduction Policies	**Project Consistency**
Land Use Policies	
5.10.4-P6: Maximize the use of recycled water for construction, maintenance, irrigation and other appropriate applications.	Consistent. The project would utilize recycled water for landscape irrigation and in the cooling towers.

Bay Area 2010 Clean Air Plan

The 2010 CAP includes performance objectives, consistent with the State's climate protection goals under AB 32 and SB 375, designed to reduce emissions of GHG emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2035. The 2010 CAP identifies a range of TCMs, Land Use and Local Impacts Measures, and Energy and Climate Measures that make up the Clean Air Plan's control strategy for emissions, including GHGs.

Due to the relatively high electrical demand of the proposed data center uses on the project site, energy efficiency measures are included in the design and operation of the proposed on-site electrical and mechanical systems. This is in keeping with the general purpose of Energy Control Measure (ECM)-1 – Energy Efficiency in the 2010 CAP. **(Less Than Significant Impact)**

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

Under the requirements of SB 375, MTC and ABAG developed a SCS with the adopted *Plan Bay Area* to achieve the Bay Area's regional GHG reduction target. Targets for the MTC in the San Francisco Bay Area, originally adopted in September 2010 by CARB, include a seven percent reduction in GHG per capita from passenger vehicles by 2020 compared to emissions in 2005. The adopted target for 2035 is a 15 percent reduction per capita from passenger vehicles when compared to emissions in 2005. The emission reduction targets are for those associated with land use and transportation strategies only. Approximately 29 employees, including fourteen operations personnel, thirteen security personnel, and two janitors, would be employed at the project site. Security and operations personnel would be employed in shifts, resulting in a maximum of 16 employees on-site on a single day. As discussed in Section 4.16, *Transportation*, the project would generate a maximum of 410 total daily trips, including vendors, clients, visitors, and employee trips. The number of net new project trips would likely be reduced when accounting for the removal of the trips to and from the project site that are currently generated by the approximately 60 existing employees at the project site. Due to the limited number of employees and visitors at the project site as well as the proposed TDM Program, the project would have less-than-significant traffic impacts during operation. Thus, the project would not contribute to a substantial increase in passenger vehicle travel within the region. **(Less Than Significant Impact)**

Assembly Bill 32 Scoping Plan

California adopted AB 32 in 2006, which codified the State's GHG emissions reduction targets for the future. CARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32. The AB 32 Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions, including (1) expanding energy and water efficiency programs (e.g., Title 24, Senate Bill X7-7), (2) increasing electricity production from renewable resources to at least 33 percent of the statewide electricity mix, (3) reducing landfilled waste (e.g., AB 341) (4) increasing automobile efficiency, (5) implementing the Low Carbon Fuel Standard (LCFS), and (6) developing the Cap-and-Trade Program. As discussed above, the vast majority of the project's GHG emissions would result from energy use. Multiple AB 32 Scoping Plan measures address GHG emissions from energy. For example, the Cap-and-Trade Program, through the regulation of upstream electricity producers, will account for GHG emissions from the project and require emissions from covered sectors to be reduced by the amount needed to achieve AB 32's 2020 goal. Similarly, the State's Renewables Portfolio Standard mandates that the State's utilities dramatically increase (to 33 percent by 2020) the percentage of electricity sales that are generated by eligible renewable generation sources. Together, these elements of the AB 32 Scoping Plan will ensure that overall statewide emissions will be decreased to the extent necessary to achieve AB 32's emissions reduction goals. As discussed above, the project includes energy efficiency components that will support implementation of the AB 32 Scoping Plan policies. The project also includes various policies to reduce water consumption, increase recycling, and promote electric vehicles. Accordingly, the project would not impede implementation of any of these elements in 2020 and, therefore, the project would comply with the AB 32 Scoping Plan. **(Less Than Significant Impact)**

Other Adopted Regulatory Programs

Policies outlined in the AB 32 Scoping Plan capture much of the state's framework for reducing GHG emissions. These programs will likely be extended beyond 2020 to address the State's 2030 GHG reduction goal. Senate Bill 350, which was adopted after preparation of the Assembly Bill 32 Scoping Plan, will also support California's long-term climate change objectives. Senate Bill 350 extends the State's Renewables Portfolio Standard from 33 percent in 2020 to 50 percent in 2030 and requires a doubling of statewide energy efficiency. In 2015, SVP's power mix included approximately 28.6 percent renewable power and the entire California electrical grid included approximately 21.9 percent renewable power (see Table 4.7-1). There is no requirement that the fraction of renewable power increase linearly between 2020 and 2030, so estimating the operational GHG emissions in 2023 to account for the likely increasing renewable power in the supply is speculative. However, because the 2030 RPS is 50 percent in 2030, it is reasonable to assume that GHG emissions generated by project electricity consumption will continue to drop and will be consistent with California's climate goals for 2030 and Senate Bill 350. This point is particularly relevant to the project since the vast majority of its estimated GHG emissions would come from electricity consumption. **(Less Than Significant Impact)**

4.7.3 Conclusion

With implementation of the efficiency measures to be implemented with the project and in combination with the green power mix utilized by SVP, GHG emissions related to the proposed project would not conflict with the Santa Clara CAP or other plans, policies or regulations adopted for the purpose of reducing the emissions of GHG. Stationary source emissions would also be less than BAAQMD's bright-line threshold of 10,000 metric tons CO_2e per year. (**Less Than Significant Impact**)

4.8 HAZARDS AND HAZARDOUS MATERIALS

Unless otherwise noted, the following discussion of potential impacts related to hazards and hazardous materials is based on the Phase I Environmental Assessment (ESA) prepared for the project site, which is included in Appendix F of this Initial Study.[49] The Phase I ESA consisted of a site and vicinity reconnaissance; review of historical maps and photographs, environmental databases, and information

[49] TRC. 2016. *Phase I Environmental Site Assessment, 651, 725, and 825 Mathew Street, Santa Clara, California.* July 22.

provided by the Vantage Data Centers (including previous environmental reports/documentation); soil and groundwater sampling, taken at fifteen boring locations on the project site; and interviews with site representatives.

4.8.1 Setting

4.8.1.1 Background Information

Hazardous materials encompass a wide range of substances, some of which are naturally-occurring and some of which are man-made. Examples of hazardous materials include pesticides, herbicides, petroleum products, metals (e.g., lead, mercury, arsenic), asbestos and chemical compounds used in manufacturing. Determining if such substances are present on or near project sites is important because exposure to hazardous materials above certain thresholds can result in adverse health effects on humans, as well as harm to plants and wildlife.

Due to the fact that these substances have properties that, above certain thresholds, are toxic to humans and/or plants and wildlife in the environment, there are multiple regulatory programs in place that are designed to minimize the chance for unintended releases and/or exposures to occur. Other programs establish remediation requirements for sites where contamination has occurred.

Hazardous Materials Use and Storage

Within the City of Santa Clara, a number of local, State, and federal regulations govern the use, transport, and storage of hazardous materials. A Hazardous Materials Business Plan is generally required of any facility which generates any quantity of hazardous waste or which handles hazardous materials in amounts greater than 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases. The implementation and enforcement of these local, State and federal regulations regarding the use, storage and transport of hazardous materials (including setbacks for flammable storage from property lines) reduce the potential for impacts to off-site land uses, in the event of an accidental release.

4.8.1.2 Project Site and Off-Site Conditions

Historical and Current Uses of the Project Site

A land use history of the site and surrounding area was compiled based on aerial photographs, topographic maps, building records, local municipal records, an environmental database report, City directories, and interviews with site representatives. Based on a review of these sources, the project site was undeveloped until approximately 1949, after which it was developed for industrial uses. The westernmost portion of the project site (APN 224-40-011 located at 825 Mathew Street) was developed with a single story painter’s warehouse in 1956 by Bucher SW & Son painters, which existed on-site until 1982. The central portion of the project site is (APN 224-40-002 located at 725 Mathew Street) was initially developed with several warehouse structures as early as 1946, and between 1961 and 1991 was the site of a tomato paste manufacturing facility operated by Gangi Bros Packing Company. Since 1991, this portion of the project site has served as storage for a fruit manufacturer, a furniture company; a heating, ventilation and air conditioning (HVAC) contractor; and vehicle storage. From 1948 through the present day, the easternmost portion of the project site (APN 224-40-001 located at 651 Mathew Street) has been the site of a food processing facility operated by Diana Fruit Company Inc. for fruit processing. The railroad tracks east of the project site were present as early as 1889, while the railroad track spur adjacent to the northern portion of the project site was built by 1948.

Historical and Current Uses of Surrounding Properties

The earliest known development of properties surrounding the project site is the Southern Pacific Railroad, which is located east of the project site and has been operational since at least 1889. The surrounding properties to the north, south, and west were in agricultural use in the 1930s and 1940s, and were subdivided into industrial warehouses, manufacturing facilities, and commercial buildings in the 1950s. In 2005, an electrical substation was built south of the project site across Mathew Street.

4.8.1.3 On-Site Sources of Contamination

Site Reconnaissance

As part of the preparation of the Phase I ESA, a site reconnaissance of accessible areas on and around the property site to evaluate current project site conditions and potential environmental concerns. The site reconnaissance was completed for APN 224-40-002 and 224-40-011 on June 28, 2016 and for APN 224-40-001 on July 1, 2016. Hazardous substances stored at APN 224-40-002 include small quantities of paints and chemicals for the furniture warehouse; lubricating oil and equipment maintenance fluids; and petroleum storage. Hazardous substances observed during reconnaissance at APN 224-40-001 include food processing chemicals, lubricants, and sanitation chemicals. However, no evidence of release was observed for any of the abovementioned substances.

Regulatory Records Search

An environmental database report identified 226 properties/listings including the project site and/or adjoining properties. The project site and/or adjoining properties listed on state and federal databases are identified in the Phase I ESA. The two on-site records identified during the regulatory records search are as follows:

- 651 Mathew Street (APN 224-40-001)—a 2,000 gallon diesel underground storage tank was historically present on the site and reportedly leaked 30 gallons of diesel fuel during tank removal and replacement. The case was closed in 2005 after removal of the tank and soil, including 400 gallons of diesel fuel impacted groundwater.
- 725 Mathew Street (APN 224-40-002)—after the detection of total petroleum hydrocarbons as gasoline (TPHg) and benzene in a groundwater sample in June 1991, two 3,000 gallon gasoline underground storage tanks and one 4,000 gallon heating oil underground storage tank were removed, as well as adjacent soils. Samples were taken and non-detectable results were obtained from adjacent monitoring wells in 1995, and the case was closed in 1996.

Additionally, the following four environmental conditions associated with the project site are identified in the Phase I ESA:

- Recognized Environmental Conditions (RECs): Low concentrations of Polynuclear Aromatics (PNAs) were detected in two soil samples collected from two borings located in the former railroad track alignment. Although the detected PNA concentrations do not exceed respective commercial or construction worker screening criteria, some residual PNA concentrations in soil exceed residential screening criteria, and are therefore considered a REC.
- Controlled Recognized Environmental Conditions (CRECs): Historical documents indicate that 651 Mathew Street was formerly a leaking underground storage tank (LUST) closure site dating back to the removal of the 2,000-gallon diesel UST in 1992 and replaced with a fiberglass walled UST, which was removed in 2005. The site received closure from the Santa Clara Valley Water District Local Oversight Program (SCVWD LOP) in 2005, after removal of the tank and soil, including 400 gallons

of diesel fuel impacted groundwater. Closure documents indicate that minor residual petroleum hydrocarbon contamination remains in groundwater (84 parts per billion) at the site. The 2005 closure letter indicated that "The County and the appropriate planning and building department shall be notified prior to any changes in land use, grading activities, excavation, and installation of water wells." This notification requirement to a regulatory agency is considered to be a CREC.

- Historical Recognized Environmental Condition (HREC): Historical documents indicate that 725 Mathew Street was formerly a LUST closure site dating back to the removal of two 3,000-gallon gasoline USTs and one 4,000-gallon heating oil UST in 1993, including 200 cubic yards of soil from the heating oil UST pit. The site received closure from the SCVWD LOP in 1995. The historical presence of USTs at the site is considered an HREC.
- de minimis conditions: During a site visit conducted as part of the Phase I ESA, multiple stains were observed on the concrete inside the former tomato cannery building at 745 Mathew Street. Because the stains were observed on the concrete, no odors were noted, and the site representative was unaware of any specific events that may have caused the stains, the stains are considered a de minimis condition.

Asbestos-Containing Materials and Lead-Based Paint

Because construction of the existing buildings on the project site occurred prior to 1980, building materials containing asbestos (ACMs) may be present. According to the Phase I ESA, some of the existing buildings on the project site were constructed in the late 1940s and in the 1950s, which is before 1978 when lead was banned as an additive in paint. Thus, lead-based paint (LBP) may be present on building materials.

4.8.1.4 Off-Site Sources of Contamination

According to the Phase I ESA, potential off-site sources of contamination include:

- 600 Mathew Street—a leaking underground storage tank was reported in 1992. Five underground storage tanks with gasoline, diesel, motor oil, and waste oil were removed by 1996, in addition to approximately 7,000 tons of soil and 20,000 gallons of TPH-gasoline impacted groundwater. The case was closed in 2000. However, residual soil and groundwater contamination were indicated as remaining in the vicinity of the former underground storage tanks. The potential for contamination of the project site from this adjacent site is considered to be low.
- 265 Lafayette Street—a LUST case was reported at a commercial fueling station in 1984. The product was removed from groundwater in 1998 and groundwater monitoring was conducted. The case was closed in 2006. The potential for contamination of the project site from this adjacent site is considered to be low.

4.8.2 <u>Environmental Checklist and Discussion of Impacts</u>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment?	☐	☐	☒	☐
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
6. For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
7. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

4.8.2.1 Impacts from On-Site Contamination

Impacts from Proposed Hazardous Materials Storage

The project proposes to construct two four-story data center buildings (Buildings A and B). The buildings would include four data halls to store computer systems and servers, as well as support spaces consisting of electrical rooms, battery rooms, ancillary server rooms, lobbies, meeting rooms, break rooms, shipping/receiving and office space. Buildings A and B would each include one 15-megawatt (MW) data room and one 12-MW data room. The data rooms on each of the upper floors would provide space for computer servers for private clients in secure and environmentally controlled areas, and client storage space. The shipping and receiving areas within the western portion of the Building A and the eastern portion of Building B would be used for loading and unloading servers, equipment, and supplies. The yards located throughout the project site would house 32 emergency generators that would provide backup power to the data center buildings in the event that an equipment failure or other conditions result in an interruption to the electric power provided by SVP, the electricity provider that serves the project site.

Hazardous material storage at the proposed data center would be regulated under local, State, and federal regulations. Conformance with relevant laws and regulations would minimize the likelihood of hazardous materials releases from the proposed data modules and generators by the project. As a result, the project would not create a significant impact on the environment. **(Less Than Significant Impact)**

Impacts from On-Site Soil and Groundwater Contamination

According to the Phase I ESA, except for relatively low concentrations of PNAs detected in two of the fifteen soil samples, analyses of soil samples collected from the project site detected no chemical concentrations exceeding residential, commercial, or construction worker screening criteria. The detected PNA concentrations were identified in soil samples collected from the former railroad track alignment and do not exceed respective commercial or construction worker screening criteria. The detected levels do exceed residential screening criteria; however, the project does not propose residential uses. Based on the findings of the Phase I ESA, shallow soil excavated from the project site is considered nonhazardous. Groundwater analyses detected no hydrocarbons or VOCs exceeding respective screening level criteria. Former USTs have been removed from the project site, and all requisite closures have been issued. Follow-up investigation of soil and groundwater conditions near the former USTs detected no significant residual petroleum hydrocarbon impacts. As a result, the project would not create a significant impact on the environment. **(Less Than Significant Impact)**

Demolition of Existing Buildings

Due to the age of the existing buildings, ACMs and LBP may occur in the building materials. Demolition of sites with ACMs and LBPs could generate hazardous wastes and expose construction workers to hazardous materials.

Impact HAZ-1: The demolition of the existing buildings on-site could result in a significant impact from exposure (of on-site workers) to asbestos and lead-based paint. **(Significant Impact)**

Mitigation Measures:

The following mitigation measures would reduce hazardous materials impacts related to ACMs, asbestos-containing construction materials (ACCMs), and lead-based paint LBP.

MM HAZ-1.1: In accordance with federal, state, and local regulations, ACM and ACCM must be removed by a licensed asbestos abatement contractor from the structures prior to renovation/demolition.

MM HAZ-1.2: Disturbance to unidentified suspect ACMs not mentioned in this report should be avoided until a certified asbestos building inspector can survey and assess the disposition of such materials.

MM HAZ-1.3: During demolition activities, all building materials containing LBP should be performed by a contractor who has the experience and expertise in LBP abatement, handling, and disposal. Construction work where an employee may be occupationally exposed to lead in any amount must comply with 29 CFR 1926.62 (8 CCR 1532.1 in California). Additionally, lead containing waste must be characterized and profiled for proper disposal according to applicable federal, State and local regulations.

Implementation of the identified mitigation measures would reduce hazardous materials impacts related to ACMs and LBP to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

4.8.2.2 Impacts from Off-Site Contamination

Based on the Phase I ESA, the potential for contamination to migrate to the project site from other properties is considered low. No hazardous material spill incidents have been reported in the project vicinity that would be likely to significantly impact the project site as migrating groundwater plumes. Further, the project does not propose groundwater extraction activities. As a result, the project would not create a significant impact on the environment. **(Less Than Significant Impact)**

4.8.2.3 Hazardous Materials Impacts

Operation of the data center would likely include the on-site use and storage of cleaning supplies and maintenance chemicals in small quantities. Operation of the proposed substation could include the on-site use of materials typically used in substations (e.g., mineral oil, substation batteries, and sulfur hexafluoride gas). No other hazardous materials would be used or stored on-site. The substation would meet federal Spill Prevention, Control, and Countermeasures (SPCC) requirements, as outlined in Title 40 of the Code of Federal Regulations, Part 112. Pursuant to United States Environmental Protection Agency (U.S. EPA) requirements, substation equipment and any required spill containment facilities would be inspected on a monthly basis. The small quantities of cleaning supplies, maintenance chemicals, and materials that would be used on-site would not pose a risk to on-site workers or adjacent land uses. **(Less Than Significant Impact)**

4.8.2.4 Other Hazards

Airport Safety Hazards

The project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport, and is within the Norman Y. Mineta San Jose International Airport Influence Area. The height of the proposed buildings to the top of the metal screen would be approximately 107.5 feet above ground surface. Airport safety hazards associated with the Norman Y. Mineta San Jose International Airport were evaluated according to airport safety zones and Federal Aviation Regulations Part 77 airspace surfaces.[50] The project site is outside of all airport safety zones with the exception of the traffic pattern zone, which restricts development types with high concentrations of people (e.g. sports stadiums). Additionally, the proposed project would not intrude upon the Part 77 airspace surface for the Norman Y. Mineta San Jose International Airport, which establishes a maximum structure height of 212 feet (above mean sea level) for the project site.[51] In addition, in accordance with Federal Aviation Administration (FAA) requirements, the project applicant would complete and submit all necessary notices and documentation to the FAA to obtain the necessary approvals for construction in compliance with FAA's Notice of Proposed Construction requirements. Due to compliance with applicable regulations set forth by the

---

50 A Part 77 airspace surface is an imaginary surface of a takeoff and landing area of an airport stablished for the airport under 14 CFR Part 77.24 as a means to identify objects that are obstructions to air navigation.

51 Santa Clara County Airport Land Use Commission. 2011. *Norman Y. Mineta San Jose International Airport Comprehensive Land Use Plan.* Available: <https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_20110525_SJC_CLUP.pdf >. Accessed: September 26, 2016.

Norman Y. Mineta San Jose International Airport and the FAA, it would not increase risks to aircraft operations or to individuals in the vicinity of the airport. **(Less than Significant Impact)**

Emergency Response

The City's Emergency Operations Plan, adopted on June 21, 2016, provides an all hazard, all risk framework for collaboration among responsible entities and coordination of emergency activities during large-scale incidents in the City. The City of Santa Clara's primary Emergency Operations Center (EOC) is located adjacent to the Santa Clara Police Department (SCPD) firing range. The alternate EOC is the Fire Department Training Center Classroom. In area-wide emergencies, one or more Incident Command Posts may be established to assist in managing emergency operations. In the event of an emergency, law enforcement (e.g., the SCPD) will establish evacuation routes in collaboration with other City departments as needed.

The project would demolish existing buildings and existing surface parking and construct two new four-story data centers with supporting parking and infrastructure improvements. Vehicle ingress and egress would be provided by four new gated driveways along Mathew Street. There would be a 26-foot wide loop road around the project site for fire access and general circulation. During project construction, traffic levels would experience a minimal increase that is not expected to degrade traffic performance significantly. Emergency response access during the construction period would not be significantly impeded. The project would not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No streets would be closed, rerouted, or substantially altered. The project does not involve the addition of large numbers of people to the local area who could increase demand during a potential evacuation. Thus, the project would not interfere with the coordination of the City's Emergency Operations Plan at the EOC or alternate EOC nor would the project interfere with any evacuation routes. Adequate emergency access to the project site and surrounding industrial area would be maintained, and the project would not interfere with the City's emergency operations plan or any statewide emergency response or evacuation plans. **(No Impact)**

Wildfires

The project site is surrounded by urban development in the City of Santa Clara, and is not located in the vicinity of wildlands. The City of Santa Clara is not identified to be within a State of California Fire Hazard Severity Zone at the wildland and urban interface.[52] As a result, there would be no risk of exposing people or structures to a significant risk of loss, injury or death involving wildland fires. **(No Impact)**

Schools

There are no schools located within one-quarter mile of the project site. The closest school to the project site is Scott Lane Elementary School at 1925 Scott Boulevard, 0.5 mile southwest of the project site. Hazardous materials emissions or hazardous materials handling during project construction would not have significant impacts on schools. **(No Impact)**

---

[52] California Department of Forestry and Fire Protection. 2008. *Santa Clara County Very High Fire Hazard Severity Zones in Local Responsibility Area.* Available: <http://frap.fire.ca.gov/webdata/maps/santa_clara/fhszl_map.43.pdf>. Accessed September 26, 2016.

4.8.3 Conclusion

With implementation of the proposed mitigation measures, the project would result in a less-than-significant impact on hazardous materials. **(Less Than Significant with Mitigation)**

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Setting

4.9.1.1 Flooding

According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), the project site is located within Zone X. Zone X is defined as areas of 0.2 percent annual chance of flood, areas of one percent chance of annual flood with average depths of less than one foot, or with drainage areas less than one square mile, and areas protected by levees from one percent annual chance of flood.[53] The existing elevation of the project site is approximately 52 feet above mean sea level (amsl).[54] In addition, the project site is not within an area mapped as vulnerable to sea level rise in the Santa Clara General Plan.[55]

4.9.1.2 Inundation and Dam Failure Hazards

The nearest waterways are the highly disturbed San Tomas Aquino Creek, approximately 1.2 miles west of the project site, and the Guadalupe River, approximately 1.2 miles east of the project site. There are no dams or levee systems in the area within the vicinity of the project site; however the project site is within the dam failure inundation area for the Lexington Reservoir (Leniham Dam).[56] The Lexington Reservoir is located approximately 17 miles south of the site adjacent to Alma Bridge Road and State Route 17 in the Santa Cruz Mountains.

In the ocean, seismically-induced waves are caused by displacement of the sea floor by a submarine earthquake and are called tsunamis. Seiches are waves produced in a confined body of water such as a lake or reservoir by earthquake ground shaking or landsliding. Seiches are possible at reservoir, lake or pond sites. The project site is not located near a large body of water and is not near the ocean; therefore, the site is not subject to inundation by seiche or tsunami.[57]

---

53 Kier & Wright Civil Engineers & Surveyors, Inc., 2016. *Vantage Data Center Due Diligence Report.* July 20, 2016.

54 TRC. 2016. *Phase I Environmental Site Assessment, 651, 725, and 825 Mathew Street, Santa Clara, California.* July 22.

55 City of Santa Clara. 2014. *City of Santa Clara 2010-2035 General Plan.* Updated December 9. Available: http://santaclaraca.gov/government/departments/planning-inspection/planning-division/general-plan. Accessed: September 27, 2016.

56 Santa Clara Valley Water District. 1995. *Inundation Map of Lexington Dam, San Jose West Quadrangle. March.* Available: http://www.valleywater.org/uploadedFiles/Services/CleanReliableWater/WhereDoesYourWaterComeFrom/Reservoirs/Lexington/Lenihan%20Dam%201995%20FIM%20Sheet%202%20of%204.pdf?n=8335. Accessed: December 1, 2016.

57 California Emergency Management Agency, California Geological Survey, and University of Southern California. 2009. *Tsunami Inundation Map for Emergency Planning, State of California, County of Santa Clara, Milpitas Quadrangle.* July. Available: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SantaClara/Documents/Tsunami_Inundation_Milpitas_Quad_SantaClara.pdf. Accessed: September 27, 2016.

4.9.1.3 Storm Drainage System

The City of Santa Clara owns and maintains the municipal storm drainage system in the vicinity of the project site. The City's storm drain system consists of curb inlets that collect and channel surface water, from rainfall and other sources, into a series of pipelines beneath City roadways The project site drains by a combination of surface flow and underground pipes (including 6-inch pipes and a 12-inch lateral) towards Mathew Street and ultimately discharges into a 33-inch storm drain under Mathew Street. The storm water is conveyed through underground pipelines to the channelized creeks within the City, such as San Tomas Aquino Creek, which then direct flow into the San Francisco Bay. As shown in Table 4.9-1, approximately 96 percent of the drainage areas that correspond with the proposed construction areas on the project site (i.e., within the approximate location of the proposed buildings and substation) are currently covered with impervious surfaces.

4.9.1.4 Groundwater

The Santa Clara Valley groundwater basin is divided into two interconnected subbasins that transmit, filter, and store water. The Santa Clara Valley Subbasin in the northern part of Santa Clara County underlies the project site. A confined zone within the northern areas of the subbasin is overlaid with a series of clay layers resulting in a low permeability zone.[58]

Seasonal fluctuations, drainage patterns, and other factors can affect the groundwater level. Based on the *Seismic hazard Zone Report 058* prepared by the Department of Conservation for San Jose West 7.5-Minute Quadrangle (2002), the historic shallowest depth to groundwater in the general site area is less than 10 feet bgs. According to the *Geotechnical Investigation*, groundwater was encountered between 6 to 11 feet below grade at the project site.[59] According to recent pore pressure dissipation tests conducted at the project site, groundwater was encountered between depths of 0.5 to 6.7 feet below grade at the project site.

4.9.1.5 Water Quality

As previously discussed, stormwater from the project site drains into channelized creeks within the City, such as San Tomas Aquino Creek. The water quality of San Tomas Aquino Creek and other creeks is directly affected by pollutants contained in storm water runoff from a variety of urban and non-urban uses. Stormwater from urban uses contains metals, pesticides, herbicides, and other contaminants, including oil, grease, asbestos, lead, and animal wastes. A 9-mile portion of San Tomas Aquino Creek south of the project site is currently listed on the U.S. EPA's Section 303(d) Listed Waters for California for trash.[60]

---

58 Santa Clara Valley Water District. 2012. *Groundwater Management Plan.* Available: http://www.valleywater.org/Services/Clean_Reliable_Water/Where_Does_Your_Water_Come_From/Groundwater/Groundwater_Management/2012_Groundwater_Management_Plan.aspx. Accessed: September 27, 2016.

59 Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November.

60 State Water Resources Control Board. 2010. Impaired Water Bodies: California 303(d) Listed Waters. Available: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml. Accessed: July 29, 2016. Note that San Tomas Aquino Creek is referred to as San Tomas Aquinas Creek in the California 303(d) list.

Regulatory Framework

The Federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. Regulations set forth by the U.S. EPA and the State Water Resources Control Board (SWRCB) have been developed to fulfill the requirements of this legislation. U.S. EPA's regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by water quality control boards, which for the Santa Clara area is the San Francisco Bay RWQCB.

NPDES Permit Programs

The State Water Resources Control Board has implemented a NPDES General Construction Permit for the State of California. For projects disturbing one acre or more of soil, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to commencement of construction.

Municipal Regional Stormwater

The San Francisco Bay RWQCB has issued a Municipal Regional Stormwater NPDES Permit (Permit Number CAS612008). The regional permit applies to 77 Bay Area municipalities, including the City of Santa Clara. Under the provisions of the Municipal NPDES permit, redevelopment projects that disturb more than 10,000 sf are required to design and construct stormwater treatment controls to treat post-construction stormwater runoff. Amendments to the MRP require all of the post-construction runoff to be treated by using Low Impact Development (LID) treatment controls, such as biotreatment facilities. The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) assists co-permittees, such as the City of Santa Clara, implement the provisions of the Municipal NPDES permit.

In addition to water quality controls, the Municipal NPDES permit requires all new and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation or other impacts to beneficial uses of local rivers, streams, and creeks. Projects may be deemed exempt from the permit requirements if they do not meet the size threshold, drain into tidally influenced areas or directly into the Bay, drain into hardened channels, or are infill projects in subwatersheds or catchments areas that are greater than or equal to 65 percent impervious (per the City of Santa Clara Hydromodification Management Applicability Map). The project site is located in a catchment area that is greater than or equal to 65 percent impervious; thus, the project site is not subject to the hydromodification requirements of the Municipal NPDES permit.[61]

Impaired Surface Water Bodies

Under Section 303(d) of the 1972 Clean Water Act, states are required to identify impaired surface water bodies and develop total maximum daily loads (TMDLs) for contaminants of concern.[62] The TMDL is the quantity of pollutant that can be safely assimilated by a water body without violating water quality standards. Listing of a water body as impaired does not necessarily suggest that the water body cannot

---

[61] Santa Clara Valley Urban Runoff Pollution Prevention Program. 2010. *HMP Applicability Map City of Santa Clara*. November. Available: <http://www.scvurppp-w2k.com/HMP_app_maps/Santa_Clara_HMP_Map.pdf>. Accessed: September 30, 2016.

[62] State Water Resources Control Board. n.d. Total Maximum Daily Load Program. Available: <http://www.swrcb.ca.gov/water_issues/programs/tmdl/303d_lists2006_approved.shtml>. Accessed: September 30, 2016.

support the beneficial uses; rather, the intent is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for future water quality degradation. As previously discussed, a 9-mile portion of San Tomas Aquino Creek south of the project site is currently listed on the U.S. EPA's Section 303(d) Listed Waters for California for trash.

4.9.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or off-site?	☐	☐	☒	☐
5. Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
6. Otherwise substantially degrade water quality?	☐	☒	☐	☐
7. Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
8. Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☐	☒
9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
10. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

As discussed in Section 4.3, *Air Quality*, the California Supreme Court concluded in the *CBIA v. BAAQMD* decision that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." With this ruling, CEQA no longer considers the impact of the environment on a project (such as the impact of existing flooding hazards on new project receptors) to be an impact requiring consideration under CEQA. Therefore, the following discussions of flooding and sea level rise are provided for informational purposes only.

4.9.2.1 Groundwater

As shown in Table 4.9-1, approximately 96 percent of the project site is currently covered with impervious surfaces. Therefore, the project site does not currently contribute to substantial recharging of the groundwater aquifers used as water supply. As previously discussed, the historic shallowest depth to groundwater in the general site area is less than 10 feet bgs. According to the *Geotechnical Investigation*, groundwater was encountered between 6 to 11 feet below grade at the project site and groundwater was encountered between depths of 0.5 to 6.7 feet below grade at the project site according to recent pore pressure dissipation tests conducted at the project site. Ground-disturbing activities would include surface grading, trenching for utilities, and the potential installation of piles or other ground improvements to support the foundations of the buildings. While temporary dewatering of perched groundwater may be required during construction, the project does not propose permanent groundwater extraction activities. Therefore, the project would not deplete groundwater supplies or interfere with groundwater flow or expose any aquifers. **(Less Than Significant Impact)**

4.9.2.2 Storm Drainage

Stormwater on site would be treated with recessed biotreatment ponds, which would be located north and south of Building A, north and east of Building B, and west of the driveway along the west side of the project site.[63] These areas would filter and treat stormwater before draining into the City of Santa Clara stormwater system. On-site drainage facilities would be designed to meet City of Santa Clara standards and would drain to the existing storm drain system.

Table 4.9-1 provides a breakdown of the pervious and impervious surfaces on the project site under both existing and project conditions. As shown, as a result of implementation of the project, impervious surfaces at the project site would decrease from 374,234 sf (96 percent of the project site) to 290,627 (74 percent of the project site). Thus, implementation of the project would result in an approximately 22 percent decrease in impervious surfaces at the project site.

No increase in impervious surface at the project site would occur and, with implementation of the SWPPP (discussed below), redevelopment of the site would not cause any increase in stormwater runoff that would exceed the capacity of the existing storm drainage system. In addition, the Municipal NPDES permit requires that redevelopment not result in a net increase in stormwater flow exiting the project site. As a result, runoff from the project site would not exceed the capacity of the local drainage system. **(Less Than Significant Impact)**

[63] CAC Architects. 2016. *McLaren Project Design Drawings, Planning Submittal*. September 30.

TABLE 4.9-1 EXISTING AND PROPOSED PERVIOUS AND IMPERVIOUS SURFACES ON-SITE						
Site Surface	**Existing/Pre-Construction (sf)**	**%**	**Project/Post-Construction (sf)**	**%**	**Difference (sf)**	**%**
Impervious Surfaces						
Roof Area	167,228	43	112,277	28	-54,951	-15
Parking	196,362	51	131,915	34	-64,447	-17
Sidewalk and Streets	10,644	2	46,435	12	35,791	10
Total Impervious Surfaces	*374,234*	*96*	*290,627*	*74*	-83,607	*-22*
Pervious Surfaces						
Landscaping	16,667	4	100,274	26	+83,607	22
Total						
Total Area (Impervious + Pervious)	*390,901*	*100.0*	*390,901*	*100.0*	--	--
Source: CAC Architects. 2016.						

4.9.2.3 Water Quality

Construction Impacts

Implementation of the project would require removal of the existing pavement and grading of the project site. Demolition and construction activities would temporarily increase the amount of debris onsite and grading activities could increase erosion and sedimentation that could be carried by runoff into natural waterways. Construction activities on the project site would temporarily generate dust, sediment, litter, oil, paint, and other pollutants that could contaminate runoff from the site. This could result in a temporary increase in pollutants in stormwater runoff to local waterways.

Impact HYDRO-1: Construction activities could temporarily increase pollutant loads in stormwater runoff. **(Significant Impact)**

Mitigation Measures:

The following mitigation measures will reduce water quality impacts during construction.

MM HYDRO-1.1: Prior to construction of the project, the City shall require the project applicant and/or contractors for the project to submit a Storm Water Pollution Prevention Plan (SWPPP) and a Notice of Intent (NOI) to the State of California Water Resource Quality Control Board to control the discharge of storm water pollutants including sediments associated with construction activities. Along with these documents, the project applicant may also be required to prepare an Erosion Control Plan. The Erosion Control Plan may include Best Management Practices (BMPs) as specified in the California Storm Water Best Management Practice Handbook (such as silt fences/straw waddles around the perimeter of the site, regular street cleaning, and inlet protection) for reducing impacts on the

City's storm drainage system from construction activities. The SWPPP shall include control measures during the construction period for:

- Soil stabilization practices,
- Sediment control practices,
- Sediment tracking control practices,
- Wind erosion control practices, and
- Non-storm water management and waste management and disposal control practices.

MM HYDRO-1.2: Prior to issuance of a grading permit, the project applicant and/or contractors shall be required to submit copies of the NOI and Erosion Control Plan (if required) to the Department of Public Works. The project applicant and/or contractors shall also be required to maintain a copy of the most current SWPPP on-site and provide a copy to any City representative or inspector on demand.

MM HYDRO-1.3: The project shall comply with City of Santa Clara ordinances, including erosion- and dust-control during site preparation and grading, and maintaining adjacent streets free of dirt and mud during construction.

MM HYDRO-1.4: The project shall comply with the municipal NPDES permit issued to the City of Santa Clara.

Implementation of the identified mitigation measures would reduce construction impacts on water quality to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

Operational Impacts

The project includes stormwater quality best management practices such as directing site runoff into vegetated swales in conformance with requirements in the City of Santa Clara's Municipal NPDES Permit. As discussed above, stormwater on site would be treated with biotreatment ponds dispersed around the site. These ponds would filter and treat stormwater before draining into the City of Santa Clara stormwater system. Inadequate maintenance of the proposed on-site stormwater features could result in an increase in pollutants in stormwater runoff to local waterways. In addition, as shown in Table 4.9-1, implementation of the project would result in an approximately 22 percent decrease in impervious surfaces at the project site.

Impact HYDRO-2: Operation of the project could increase pollutant loads in stormwater runoff. **(Significant Impact)**

Mitigation Measures:

The following mitigation measures would reduce water quality impacts during operation.

MM HYDRO-2.1: When the construction phase is complete, a Notice of Termination (NOT) for the General Permit for Construction shall be filed with the RWQCB and the City of Santa Clara. The NOT shall document that all elements of the SWPPP have been executed, construction materials and waste have been properly disposed of, and a post-construction stormwater management plan is in place as described in the SWPPP for the project site.

MM HYDRO-2.2: All post-construction Treatment Control Measures (TCMs) shall be installed, operated, and maintained by qualified personnel. On-site inlets shall be cleaned out a minimum of once per year, prior to the wet season.

MM HYDRO-2.3: The property owner/site manager shall keep a maintenance and inspection schedule and record to ensure the TCMs continue to operate effectively for the life of the project. Copies of the schedule and record must be provided to the City upon request and must be made available for inspection on-site at all times.

Implementation of the identified mitigation measures would reduce operational impacts on water quality to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

4.9.2.4 Flooding

As previously discussed, the project site is located within Flood Zone X, but is not located within a 100-year flood hazard zone. Therefore, the project, which would not include any residential uses, would not result in placing housing in a 100-year flood zone or expose people or structures to any significant flood risk. **(Not a CEQA Impact; Provided for Informational Purposes Only)**

Flooding Impacts Related to Sea Level Rise

The project site is located inland from San Francisco Bay at an elevation of approximately 52 feet amsl. In addition, as previously discussed, the project site is not within an area mapped as vulnerable to sea level rise in the Santa Clara General Plan. Therefore, the project would not be subject to significant risk of flooding impacts related to sea level rise. **(Not a CEQA Impact; Provided for Informational Purposes Only)**

4.9.2.5 Dam Failure

As previously discussed, there are no dams or levee systems in the area within the vicinity of the project site; however the project site is within the dam failure inundation area for Lexington Reservoir (Leniham Dam). Lexington Reservoir is maintained by the Santa Clara Valley Water District (SCVWD) and the dam is continuously monitored for seepage and settling and inspected when an earthquake occurs. Due to the monitoring and inspection, the distance from the project site, and the nature of the on-site uses, proposed site improvements are not anticipated to result in a new substantial hazard from dam failure. While inundation resulting from dam failure could result in damage to structures, the probability of such a failure is extremely remote. Therefore, the project would not be subject to a significant risk of inundation from dam failure. **(Not a CEQA Impact; Provided for Informational Purposes Only)**

4.9.2.6 Inundation

As previously discussed, the project site is not located near a large body of water and is not near the ocean. Due to the location of the project site, the project would not be subject to inundation by seiche, tsunami, or mudflow. **(Not a CEQA Impact; Provided for Informational Purposes Only)**

4.9.3 Conclusion

With the implementation of the proposed mitigation measures, the project would have a less-than significant impact on hydrology and water quality. **(Less Than Significant Impact with Mitigation)**

4.10 LAND USE

4.10.1 Setting

4.10.1.1 Existing Land Use on the Project Site

The 8.97-acre project site is in an existing industrial area of the City. The project site is comprised of three parcels developed with existing industrial warehouse, manufacturing, and office facilities, as well as associated surface parking. The existing buildings on the project site have a total footprint of approximately 147,600 sf. Refer to Figure 2.0-3 in Section 2.0, *Project Information*, for an aerial photograph of the project site and surrounding area.

4.10.1.2 Surrounding Land Uses

The project site is bounded by Mathew Street to the south, the Southern Pacific Railroad to the east, and other commercial and industrial properties to the north and west. The project site is primarily surrounded by industrial and commercial land uses. The buildings use a variety of building materials such as metal, glass, wood, concrete, and stone. The area surrounding the project site is characterized by low-rise buildings and warehouses set back from the roadway with surface parking lots and intermittently-spaced landscaped areas. The closest parks to the project site are Reed Street Dog Park (located 0.3 mile south of the project site) and Larry J. Marsalli Park (located 0.6 mile south of the project site). The closest residences to the project site are approximately 400 feet west of the project site. The closest school to the project site is Scott Lane Elementary School at 1925 Scott Boulevard, 0.5 mile southwest of the project site.

4.10.1.3 Santa Clara General Plan Land Use Designation and Zoning

Land Use Designation

The City adopted the Santa Clara General Plan in 2010 to accommodate planned housing and employment growth through 2035. The Land Use Diagram of the Santa Clara General Plan contains three phases: Phase I: 2010–2014, Phase II: 2015–2023, and Phase III: 2023–2035. The project site will retain its designation as Heavy Industrial for Phases I, II, and III.[64]

The Heavy Industrial designation allows for primary manufacturing, refining and similar activities. It also accommodates warehousing and distribution, as well as data centers. Support ancillary office space or retail associated with the primary use, may be up to a maximum of ten percent of the building area. No standalone retail uses are allowed. Parking is typically in surface lots. The maximum floor area ratio (FAR) is 0.45.

Zoning Designation

The project site is zoned as MH (Heavy Industrial). This zoning designation is intended for any heavy industrial development including manufacturing, processing, assembling, research, wholesale, or storage uses. Such permitted uses shall not be objectionable or detrimental to adjacent properties because of noise, smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards, or industrial or hazardous

---

64 City of Santa Clara. 2014. *General Plan Land Use Diagrams: Phase I: 2010–2014, Phase II: 2015–2023, and Phase III: 2023–2035*. Updated December 9. Available: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan. Accessed October 31, 2016.

wastes or materials emanating from the property. Maximum building height under this zoning designation is 70 feet. Buildings under this designation are required to have at least 15-foot setback distance from the street.

4.10.1.4 Applicable Plans, Policies, and Regulations

The Santa Clara General Plan establishes goals and policies to guide land use development within the City of Santa Clara. Applicable Santa Clara General Plan policies are presented in Table 4.10-1. The project's consistency with these policies is discussed below.

4.10.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Physically divide an established community?	☐	☐	☐	☒
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
3. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

4.10.2.1 Physical Division of an Established Community

The project would demolish all of the existing on-site structures and associated surface parking and construct two new four-story data center buildings with supporting parking. The project site is surrounded by industrial and commercial uses. Therefore, the project would not physically divide an established community within the City and would not interfere with the movement of residents through a neighborhood. **(No Impact)**

4.10.2.2 General Plan and Zoning

General Plan Designation Consistency

The proposed data halls would provide space for computer servers for private clients in secure and environmentally controlled areas. Data centers are specifically mentioned in the Santa Clara General Plan as an anticipated Heavy Industrial use that requires a large, warehouse-style building. At full build-out, the proposed project is anticipated to employ approximately 29 employees, including 14 operations personnel, 13 security personnel, and 2 janitors. Security and operations personnel would be employed in shifts, resulting in a maximum of 16 employees on-site on any single day (9 operations personnel, 5 security personnel, and 2 janitors). Therefore, employment density at the project site would be very low, which is consistent with the intent of the Heavy Industrial land use designation. The General Plan provides for a maximum FARs for industrial uses ranging from 0.45 for Heavy Industrial to 2.0 for High-

Intensity Office/R&D.[65] These FARs reflect intended employment intensities in industrial areas assumed in the Santa Clara General Plan rather than assumptions or requirements for open space around industrial buildings. The proposed FAR for the project is 1.06, which would exceed the maximum FAR allowable under the Santa Clara General Plan (0.45). However, the project as proposed is generally consistent with the General Plan, and the FAR standard in the General Plan is a guideline and not a definitive development standard, like a provision in the Zoning Ordinance would be. As stated above, the General Plan's FAR limitations are intended to control employment density, and the project's employment density would be low. Based on the above analysis, the project would not conflict with the allowed uses or assumed employment intensity for the Heavy Industrial designation. Moreover, there are numerous Santa Clara General Plan policies with which the project does achieve consistency: Therefore, the project would be consistent with the Santa Clara General Plan designation for the project site. **(Less Than Significant Impact)**

TABLE 4.10-1
PROJECT CONSISTENCY WITH SANTA CLARA GENERAL PLAN LAND USE POLICIES

Land Use Policies	Project Consistency
Land Use Policies	
5.3.1–P3: Support high quality design consistent with adopted design guidelines and the City's architectural review process.	Consistent. The façades of the proposed buildings would consist primarily of plaster or other cementitious skin materials, metal, and glass. The design of the proposed buildings incorporates the use of varied surface materials and colors as well as accent elements including an exposed stair/elevator tower, vertical bands and corrugated metal panels. These architectural elements help create visual interest and reduce the perceived height and bulk of the structure by breaking up the building facade. The buildings and site improvements would be subject to the City's design review process to ensure that the project would not adversely affect the visual quality of the area and would conform to current architectural and landscaping standards.
5.3.1–P8: Work with property owners to improve or redevelop underutilized and vacant properties.	Consistent. The project would redevelop an existing property that includes industrial warehouse, manufacturing, and office facilities, as well as associated surface parking. A substantial amount of the project site is comprised of vacant space and surface parking.
5.3.1–P29: Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.	Consistent. The project proposes to construct two four-story data center buildings. Thus, the proposed buildings would be two to three stories taller than the surrounding low-rise structures. However, the proposed building facade would be visually similar to the surrounding industrial and commercial uses. The project area is developed with buildings that feature a mix of architectural styles and no particular dominant design aesthetic. The proposed building design would be compatible with the mixed visual character of the area.
5.3.5-P12: Promote development, such as manufacturing, auto services and data centers, in Light and Heavy Industrial classifications to compliment employment areas and retail uses.	Consistent. The project would include the construction of two data center buildings on a site that is designated as Heavy Industrial under the Santa Clara General Plan.

65 Floor area ratio (FAR) is the ratio of building square footage to land square footage. For example, a three-story, 60,000 square foot building on a 30,000 square foot lot would have a FAR of 2.0.

TABLE 4.10-1
PROJECT CONSISTENCY WITH SANTA CLARA GENERAL PLAN LAND USE POLICIES

Land Use Policies	Project Consistency
Air Quality Policies	
5.10.2– P3: Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.	Consistent. The project would include four electrical vehicle charging stations that would serve nine electrical vehicle parking spots.
5.10.2-P4: Encourage measures to reduce GHG emissions to reach 30 percent below 1990 levels by 2020.	Consistent. Water conservation and energy efficiency measures included in the project would reduce GHG emissions associated with the generation of electricity.
5.10.2–P6: Require "Best Management Practices" for construction dust abatement.	Consistent. In accordance with Mitigation Measure AIR-1.1 included in Section 4.3, *Air Quality*, the project applicant would implement BAAQMD-recommended BMPs to control fugitive dust.
Energy Policies	
5.10.3-P1: Promote the use of renewable energy resources, conservation and recycling programs.	Consistent. The project would utilize lighting control to reduce energy usage for new exterior lighting and air economization for building cooling. Water efficient landscaping, ultra low flow plumbing fixtures in the proposed buildings, and the use of recycled water for the cooling towers would limit water consumption. Furthermore, the project would utilize materials (wallboard partitions, ceiling tiles, floor surfaces) that include post-consumer waste.
5.10.3-P4: Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.	
5.10.3-P5: Reduce energy consumption through sustainable construction practices, materials and recycling.	
5.10.3-P6: Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.	
Water Policies	
5.10.4-P6: Maximize the use of recycled water for construction, maintenance, irrigation and other appropriate applications.	Consistent. The project would utilize recycled water for landscape irrigation and in the cooling towers.
5.10.4–P7: Require installation of native and low-water-consumption plant species when landscaping new development and public spaces to reduce water usage.	Consistent. Approximately 120 new trees (including London Plane, Coast Live Oak, and Brisbane Box trees) would be planted around the perimeter of the project site and along the central access drive. In addition, shrubs and ground cover would be planted throughout the project site. In addition, water efficient landscaping with low usage plant material to minimize irrigation requirements would be installed and maintained.
Noise Policies	
5.10.6–P3: New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid core doors and baffling) and structural measures (earthen berms and sound walls).	Consistent. In accordance with Mitigation Measure NOI-1.1 in Section 4.12, *Noise*, the project applicant would implement measures to reduce noise from mechanical equipment (e.g., sound enclosures, mufflers, and equipment) that meets the City's 70 dBA noise standard.
5.10.6–P4: Encourage the control of noise at the source through site design, building design, landscaping, hours of operation and other techniques.	

Zoning Designation Consistency

The project site is zoned as MH. As previously discussed, the maximum building height under the MH zoning designation is 70 feet. Buildings under this designation are required to have at least 15-foot setback distance from the street. This zoning designation accommodates industries operating substantially within an enclosed building. The height of the proposed buildings to the top of the roof would be approximately 87.5 feet above ground surface (107.5 feet above ground surface to the top of the roof screen). The proposed buildings would be set back from the street by more than 15 feet. The height of the proposed buildings would exceed the maximum height allowed. The project applicant is requesting a zoning administrator modification to allow for a height increase of up to 25 percent. With approval of a zoning administrator modification, the project would be consistent with the development standards for the MH zoning designation and the proposed data center uses would be consistent with allowed uses for the MH zoning designation. Therefore, with approval of a zoning administrator modification to the MH zoning designation, the project would be consistent with the existing zoning designation for the project site. **(Less Than Significant Impact)**

4.10.2.3 Land Use Compatibility

Potential incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritation and nuisances to potentially significant effects on human health and safety. The project would modify the character of the project site by demolishing the existing industrial warehouse, manufacturing, and office facilities, as well as associated surface parking. In their place, the project would include the construction of two four-story, 206,500-gsf data center buildings and a paved surface parking lot that would become a new Vantage Data Center campus. The project site is primarily surrounded by industrial and commercial uses. Although the project would introduce taller buildings on the project site compared to the existing on-site buildings, the mass and scale of the proposed buildings would not be out of character with the surrounding buildings. Employment density at the project site would be relatively low and noise and lighting would not substantially increase over existing levels. Thus, the proposed data center would be compatible with surrounding uses and would not interfere with the existing operations of the adjacent businesses. Therefore, the proposed land use under the project would be compatible with the surrounding uses. **(Less Than Significant Impact)**

4.10.2.4 Consistency with Applicable Habitat Conservation Plan or Natural Community Conservation Plan

The project site is not subject to an approved Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan; therefore, no impact would occur. **(No Impact)**

4.10.3 Conclusion

The project would have a less-than-significant impact on land use. **(Less Than Significant Impact)**

4.11 MINERAL RESOURCES

4.11.1 Setting

The City is located in an area zoned MRZ-1 for aggregate materials by the State of California.[66] MRZ-1 zones are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence. The area is not known to support significant mineral resources of any type. No mineral resources are currently being extracted in the City. The State Office of Mine Reclamation's list of mines (the AB 3098 List) regulated under the Surface Mining and Reclamation Act (SMARA) does not include any mines within the City.[67]

4.11.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒
2. Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

4.11.2.1 Mineral Resources Impacts

The project site is in a developed urban area and does not contain any known or designated mineral resources. **(No Impact)**

4.11.3 Conclusion

The project would have no impact related to the loss of availability of a known important mineral resource. **(No Impact)**

[66] California Department of Conservation. 1996. *Revised Mineral Land Classification Map. Aggregate Resources Only. South San Francisco Bay Production-Consumption Region. Mountain View Quadrangle. Open-File Report 96-03.* Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_96-03/OFR_96-03_Plate5.pdf. Accessed: September 27, 2016.

[67] California Department of Conservation. 2016. AB 3098 List. Available: http://www.consrv.ca.gov/omr/SMARA%20Mines/ab_3098_list/Pages/Index.aspx. Accessed: September 27, 2016.

4.12 NOISE

4.12.1 Setting

4.12.1.1 Noise Background

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a project.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water, and noise is generally defined as unwanted sound that annoys or disturbs people. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called "A-weighting," written as "dBA" and referred to as "A-weighted decibels." Table 4.12-1 summarizes typical A-weighted sound levels for different noise sources.

In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (such as L_{10}, L_{20}), the day-night sound level (L_{dn})), and the community noise equivalent level (CNEL). Sensitivity to noise increases during the evening and at night because excessive noise interferes with the ability to sleep, and L_{dn} and CNEL values take this into consideration, as they involve averaging cumulative noise exposure over a 24-hour period. L_{dn} and CNEL values differ by less than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

For a point source such as a stationary compressor or construction equipment, sound attenuates based on geometry at a rate of 6 dB per doubling of distance. For a line source such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance.[68] Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

[68] Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment.* FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 26, 2016.

TABLE 4.12-1 TYPICAL A-WEIGHTED SOUND LEVELS[69]		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
	100	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime		Theater, large conference room
	40	(background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

4.12.1.2 Vibration Background

Operation of heavy construction equipment, particularly the types used for pile driving and pavement breaking, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude,

69 California Department of Transportation. 2013a. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf.Accessed: October 26, 2016.

referred to as the peak particle velocity (PPV). Table 4.12-2 summarizes typical vibration levels generated by construction equipment.

TABLE 4.12-2 VIBRATION SOURCE LEVELS FOR DEMOLITION AND CONSTRUCTION EQUIPMENT[70]					
Equipment	**PPV at 25 feet**	**PPV at 50 feet**	**PPV at 75 feet**	**PPV at 100 feet**	**PPV at 400 feet**
Pile driver (impact)	1.518	0.5367	0.2921	0.1875	0.0237
Pile driver (sonic/vibratory)	0.734	0.2595	0.1413	0.0918	0.0115
Hoe ram	0.089	0.0315	0.0171	0.0111	0.0014
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0014
Loaded trucks	0.076	0.0269	0.0146	0.0095	0.0012
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0005
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0033

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions.[71] PPV_{ref} is the reference PPV from Table 4.12-2.

$$PPV = PPV_{ref} x\ (25/Distance)^{1.5}$$

Tables 4.12-3 and 4.12-4 summarize guidelines developed by California Department of Transportation (Caltrans) for damage and annoyance potential from transient and continuous vibration that is usually associated with construction activity. Equipment or activities typical of continuous vibration include excavation equipment, static-compaction equipment, tracked vehicles, traffic on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory-compaction equipment. Equipment or activities typical of single-impact (transient) or low-rate repeated impact vibration include impact pile drivers, blasting, drop balls, “pogo stick” compactors, and crack-and-seat equipment.[72]

70 Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 26, 2016.

71 Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 26, 2016.

72 California Department of Transportation. 2013b. *Transportation and Construction Vibration Guidance Manual*. Available: http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf. Accessed: October 26, 2016.

TABLE 4.12-3 GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA[73]		
	Maximum PPV (in/sec)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory-compaction equipment.		

TABLE 4.12-4 GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA[74]		
	Maximum PPV (in/sec)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory-compaction equipment.		

4.12.1.3 Applicable Noise Standards

City of Santa Clara General Plan

The City of Santa Clara General Plan outlines the levels of exterior noise that are considered “normally acceptable,” “conditionally acceptable with required design and insulation to reduce noise levels,” and “normally unacceptable” for residential, educational, recreational, commercial, industrial, and open space land uses (subject to further regulation by the Santa Clara City Code). For residential uses, exterior noise levels of 55 dBA CNEL are considered normally acceptable, while levels between 55 dBA CNEL and 70 dBA CNEL are considered conditionally acceptable, as long as reduction measures are implemented to reduce interior noise to 45 dBA. Noise levels above 70 dBA CNEL are considered normally unacceptable for residential land uses. For commercial land uses, noise levels up to 65 CNEL are considered normally acceptable, with levels between 65 and 75 CNEL being considered conditionally acceptable, as long as

---

73 Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 26, 2016.

74 California Department of Transportation. 2013b. *Transportation and Construction Vibration Guidance Manual*. September. http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf. Accessed: October 26, 2016.

reduction measures are implemented to reduce interior noise to 50 dBA CNEL; noise levels about 75 CNEL are considered unacceptable. For industrial land uses, noise levels of up to 70 CNEL are considered normally acceptable, and levels between 70 CNEL and 80 CNEL are considered conditionally acceptable, as long as reduction measures are implemented to reduce interior noise to 50 dBA CNEL.

Santa Clara City Code

Chapter 9.10 of the Santa Clara City Code applies to the regulation of noise and vibration. The purpose of the noise ordinance is to protect the public welfare by limiting unnecessary, excessive, and unreasonable noise or vibration. Section 9.10.040 specifies the exterior noise limits that apply to land use zones within the City, which are provided in Table 4.12-5.

TABLE 4.12-5
SANTA CLARA CITY CODE SCHEDULE A EXTERIOR SOUND OR NOISE LIMITS

Receiving Zoning Category	Time Period	Maximum Noise Level (dBA)
Category 1		
Single-family and duplex residential (R1, R2):	Commencing at 7:00 a.m. and ending at 10:00 p.m. that evening	55
	Commencing at 10:00 p.m. and ending at 7:00 a.m. the following morning	50
Category 2		
Multiple-family residential, public space (R3, B):	Commencing at 7:00 a.m. and ending at 10:00 p.m. that evening	55
	Commencing at 10:00 p.m. and ending at 7:00 a.m. the following morning	50
Category 3		
Commercial, Office (C, O):	Commencing at 7:00 a.m. and ending at 10:00 p.m. that evening	65
	Commencing at 10:00 p.m. and ending at 7:00 a.m. the following morning	60
Category 4		
Light Industrial (ML, MP):	Anytime	70
Heavy Industrial (MH):	Anytime	75

Noise levels from fixed sources are limited at residential uses and public space land uses to 55 dBA during the daytime (7:00 a.m. to 10:00 p.m.) and 50 dBA during the nighttime (10:00 p.m. to 7:00 a.m.). Noise levels at commercial and office land uses are limited to 65 dBA during the daytime (7:00 a.m. to 10:00 p.m.) and 60 dBA during the nighttime (10:00 p.m. to 7:00 a.m.). Noise levels at light-industrial land uses are limited to 70 dBA day or night. The noise limits are not applicable to emergency work, including the operation of emergency generators, pumps, or other equipment necessary to provide services during an emergency.

Section 9.10.040 of the Santa Clara City Code establishes the following regulations on construction work:

- Construction activities are not permitted within 300 feet of residentially zoned property except between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted on Sundays or holidays.

With regard to vibration, Section 9.10.050 of the Santa Clara City Code pertains to vibration. It states that:

- It shall be unlawful for any person to operate or cause, permit, or allow the operation of, any fixed source of vibration of disturbing, excessive, or offensive vibration on property owned, leased, occupied, or otherwise controlled by such person, such that the vibration originating from such source is above the vibration perception threshold of an individual at the closest property line point to the vibration source on the real property affected by the vibration.

Santa Clara County Comprehensive Land Use Plan for Norman Y. Mineta San Jose International Airport

The Santa Clara County Airport Land Use Commission (ALUC) has adopted a Land Use Compatibility table for projects in the vicinity of Norman Y. Mineta San José International Airport. Under ALUC land use compatibility noise policies, industrial uses are compatible with noise environments (from aircraft overflights) that are 70 CNEL or less, office buildings, business commercial, and retail land uses are compatible with noise environments that are 65 CNEL or less, and residential land uses are compatible with noise environments that are 60 CNEL or less.

4.12.1.4 Existing Noise Environment

The project site is surrounded by light industrial, heavy industrial, and commercial land uses. In addition, some residential land uses are located farther from the project. The nearest residential receptors are approximately 400 feet west of the project site. The project site is designated as Heavy Industrial under the City of Santa Clara 2010-2035 General Plan (Santa Clara General Plan) and is zoned as MH (Heavy Industrial). The predominant ambient noise sources at nearby receptors are automobile traffic along Lafayette Street and other arterial roadways. Additionally, the project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport. Aircraft over-flights and off-site industrial equipment and activities are audible noise sources in the absence of traffic.

4.12.2 <u>Environmental Checklist and Discussion of Impacts</u>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
2. Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
6. For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.12.2.1 Thresholds of Significance

The CEQA Guidelines state that a project would normally be considered to have a significant impact if noise levels conflict with adopted environmental standards or plans, or if noise levels generated by the project would substantially increase existing noise levels at noise-sensitive receivers on a permanent or temporary basis. CEQA does not define what noise level increase would be substantial. The Santa Clara General Plan defines a change of three dB as noticeable, five dB as distinct.[75] Typically, project generated noise level increases of three dBA or greater are considered significant where resulting exterior noise levels would exceed the normally acceptable noise level standard. Where noise levels would remain at or below the normally acceptable noise level standard with the project, a noise level increase of five dBA or greater is considered significant.

4.12.2.2 Noise and Vibration Impacts from Construction

Excessive Demolition and Construction Noise Levels

Demolition and construction of the project would generate noise and would temporarily increase noise levels at adjacent commercial and industrial land uses. The significance of noise impacts during demolition and construction depends on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. The demolition of the existing surface parking lot and construction of the proposed building and substation expansion would generate noise and would temporarily increase noise at adjacent industrial and commercial land uses.

Construction activities can generate considerable amounts of noise, especially during the demolition phase and the construction of project infrastructure when heavy equipment is used. Refer to Table 4.12-6 for a list of equipment expected to be used for project demolition and construction, the corresponding L_{max} sound levels at 50 and 100 feet, and the typical acoustical use factors. The acoustical use factor, or utilization factor, is the percentage of time each piece of construction equipment is assumed to be operating at full power (i.e., its noisiest condition) during construction, and is used to estimate L_{eq} values

75 City of Santa Clara. 2014. *City of Santa Clara 2010-2035 General Plan*. Updated December 9. Available: http://santaclaraca.gov/government/departments/planning-inspection/planning-division/general-plan. Accessed: October 26, 2016.

from L_{max} values. For example the L_{eq} value for a piece of equipment that operates at full power 50 percent of the time (acoustical use factor of 50) is 3 dB less than the L_{max} value.

TABLE 4.12-6
TYPICAL CONSTRUCTION NOISE EMISSION LEVELS FOR PROJECT CONSTRUCTION EQUIPMENT

Equipment	L_{max} at 50 feet (dBA)[a]	L_{max} at 100 feet (dBA)[b]	Acoustical Usage/Utilization Factor (percent usage)
Air Compressor	78	72	40
Backhoe	78	72	40
Crane	81	75	16
Concrete Mixer Truck	79	73	40
Concrete Pump Truck	81	75	20
Concrete Saw	90	84	20
Forklift[c]	84	78	40
Dozer	82	76	40
Excavator	81	75	40
Front-end loader	79	73	40
Generator Set	81	75	50
Grader	85	79	40
Man lift	75	69	20
Paver	77	71	50
Roller	80	74	20
Tractor	84	78	40
Water Truck	76	70	40
Welders	74	68	40
Dump truck/haul truck[d]	76	70	40

Notes:
a. These values represent the loudest noise levels generated by each equipment type at a distance of 50 feet.
b. These values were calculated by subtracting 6 dBA from each L_{max} value at 50 feet, based on geometric attenuation for a point source.
c. Represented by Tractor from the FHWA *User's Guide*.
d. Represented by Dump Truck from the FHWA *User's Guide*.

To provide a conservative construction analysis, modeling for construction noise assumes that the three of the loudest pieces of equipment proposed to be used during a single phase (concrete saw, dozer, and tractor, which are all proposed for use during the demolition phase) would be operating simultaneously and close to one another on the project site. The combined noise level (both L_{max} and L_{EQ}) from the operation of this construction equipment was calculated. L_{EQ} values were calculated from L_{max} values using estimated utilization factors. Anticipated average (L_{EQ}) construction noise at various distances from the project site are shown in Table 4.12-7.

TABLE 4.12-7
PROJECT DEMOLITION AND CONSTRUCTION NOISE LEVELS (L_{EQ}) AT VARIOUS DISTANCES

Source Data			Utilization Factor	L_{EQ} Sound Level (dBA)
Source 1: Concrete saw - Sound level (dBA) at 50 feet = 90			0.2	83.0
Source 2: Dozer - Sound level (dBA) at 50 feet = 82			0.4	78.0
Source 3: Tractor - Sound level (dBA) at 50 feet = 84			0.4	80.0
Calculated Data:				
All Sources Combined - L_{max} sound level (dBA) at 50 feet =				91.0
All Sources Combined - L_{EQ} sound level (dBA) at 50 feet =				86.0
Distance Between Source and Receiver (ft)	**Geometric Attenuation (dB)[a]**	**Ground Effect or shielding Attenuation (dB)[b]**	**Calculated Lmax Sound Level (dBA)**	**Calculated Leq Sound Level (dBA)**
50	0	0.0	91	86
100	-6	0.0	85	80
200	-12	0.0	79	74
250	-14	0.0	78	72
300	-16	0.0	76	70
400	**-18**	**0.0**	**73**	**68**
500	-20	0.0	71	66
600	-22	0.0	70	64
650	-22	0.0	69	63
700	-23	0.0	69	63
800	-24	0.0	67	62
900	-25	0.0	66	61
1000	-26	0.0	65	60
1200	-28	0.0	64	58
1400	-29	0.0	63	57
1600	-30	0.0	61	56
1800	-31	0.0	60	54
2000	-32	0.0	59	54

Notes:
Based on noise levels from: Federal Highway Administration (FHWA). 2006. *Roadway Construction Noise Model User's Guide*. Available: http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf. January. Washington, DC.
[a] Geometric attenuation based on 6 dB per doubling of distance.
[b] This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further, or from ground attenuation.

The closest uses to the project site are the light industrial uses and commercial uses (Home Depot) located adjacent to the project site. These land uses are not generally considered to be noise-sensitive. As previously discussed, the nearest residence is located approximately 400 feet west of the project site. Worst-case construction noise (based on the assumptions described above) at a distance of 400 feet could be up to 68 dBA L_{EQ} based on distance alone, not accounting for ground effect attenuation or shielding offered by intervening buildings. Shielding and ground effects could potentially reduce this noise level by approximately 5 additional dB.

Construction noise impacts are more substantial when construction occurs during noise-sensitive times of the day (early morning, evening, or nighttime hours near residential uses), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction lasts extended periods of time. For the proposed project, construction would occur 8 hours per day, Monday through Friday, with no construction occurring on the weekend or on holidays. Demolition and construction activities for the project could result in annoyances to existing industrial and commercial uses adjacent to the project site, as well as to the residential land uses located at distances of 400 feet or more from the project site. However, there are no residentially zoned properties or other noise-sensitive land uses within 300 feet of the site. As discussed in the regulatory setting section, construction activities are not permitted within 300 feet of residentially zoned property except between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted on Sundays or holidays. Because the area surrounding the project site consists of mostly industrial and some commercial land uses, with the nearest residence being approximately 400 feet away, the proposed project would not be subject to the Santa Clara City Code regulation on construction hours. In addition, as no demolition or construction is proposed to occur on weekends or holidays, potential construction noise effects would be further reduced.

Haul trucks and worker trips would temporarily increase traffic noise in the vicinity of the project site. The maximum number of trips is anticipated to occur during demolition for Phases 1 and 3, with up to 330 one-way haul trips (660 total daily trips) and 15 one-way (30 round-trip) worker trips occurring on a given day.

As discussed in Section 4.16, *Transportation*, and as shown in Table 4.12-8 provided in the *Traffic* discussion below, existing AM and PM peak hours trip volumes on the roadway segments adjacent to residences near the project site (Lafayette Street north and south of Mathew Street) are all in excess of 2,000 trips. This corresponds to a daily traffic volume of about 20,000, based on the common assumption that 10 percent of the daily traffic occurs during the peak hour. The noise generated by a heavy truck is approximately equivalent to the noise generated by 13 automobiles[76] Therefore, the 660 daily haul truck trips generated during construction would generate noise equivalent to about 8,580 automobiles. On a roadway with average daily traffic of approximately 20,000, the haul truck trips during project construction would increase traffic noise by less than 2 dB. Thus, project-related haul trucks would not increase daily noise levels above existing levels by 3 dB, the threshold of a perceptible noise increase, on residential-adjacent roadway segments near the project site. Furthermore, project construction (including demolition and the use of haul trucks) would be temporary.

Given the above findings related to project construction and the use of haul trucks, noise from project demolition and construction (including the use of haul trucks) would not result in a substantial temporary or periodic increase in ambient noise levels, and would not violate the applicable local standards. **(Less Than Significant Impact)**

Excessive Groundborne Vibration or Groundborne Noise Levels

Land uses in which groundborne vibration could potentially interfere with operations or equipment, such as research facilities, manufacturing facilities, hospitals, and university research operations are considered “vibration-sensitive.[77]” The degree of sensitivity depends on the specific equipment that would be

---

76 California Department of Transportation. 2013a. *Technical Noise Supplement to the Traffic Noise Analysis Protocol.* September. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf.Accessed: October 26, 2016.

77 Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment.* FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 26, 2016.

affected by the groundborne vibration. None-impact construction equipment will typical not have an adverse effect on vibration-sensitive facilities at distances greater than 250 feet.[78] No vibration-sensitive land uses are within 250 feet of the project site. Therefore, any vibration generated during demolition or construction activities would not affect vibration-sensitive land uses. However, excessive levels of groundborne vibration of either a regular or an intermittent nature could result in annoyance to residential uses.

A vibration level of 0.01 PPV is considered to be barely perceptible for continuous/frequent intermittent sources of vibration, such as construction activity (refer to Table 4.12-4). The nearest residence is located approximately 400 feet away from the project site. Using the vibration attenuation equation [$PPV = PPV_{ref} \times (25/Distance)^{1.5}$], vibration from demolition and construction equipment at a distance of 400 feet can be calculated (vibration levels at 400 feet are shown in Table 4.12-2). There are two options for the building foundations: a deep pile system consisting of auger cast displacement piles; and a rigid mat foundation combined with a deep ground improvement method.[79] Although pile driving, which has the greatest potential to generate vibration, would not occur, large earth-moving equipment such as a bulldozer would likely be used. A large bulldozer could generate vibration levels of 0.0014 at a distance of 400 feet (the distance to the closest residential land uses), which is nearly 10 times less than the "barely perceptible" level of 0.01 described in Table 4.12-4. Therefore, at the nearest residential receptors, vibration from project demolition and construction would not be perceptible. **(Less Than Significant Impact)**

4.12.2.3 Project-Generated Noise Impacts

Mechanical Equipment

The project would include multiple pieces of mechanical equipment with the potential to generate noise that could be audible at nearby land uses. Specifically, an approximately 24,000-sf combined generator and mechanical equipment yard would be located west of Building A and would be encircled by a 10-foot-tall yard fence with black slats. An approximately 12,700-sf generator yard would be located south of Building B and an approximately 9,500-sf generator yard would be located north of Building B. The southern generator yard would be screened with a 28-foot-tall masonry wall designed to blend into the surrounding building forms. A 10-foot-tall yard fence with black slats would encircle the northern generator yard. A separate 13,000-sf mechanical equipment yard would be located east of Building B and would be encircled by a 10-foot-tall yard fence with black slats. The 32 proposed emergency generators (Caterpillar C175-16 3000 kW output generators) located in the yards discussed above would provide backup power to the data center buildings in the event that an equipment failure or other conditions result in an interruption to the electric power provided by SVP, the electricity provider that serves the project site. The generator and mechanical equipment yards would also include chillers, cooling towers, chilled water pumps, and condenser water pumps. Mechanical equipment on the roofs of the proposed buildings would include air conditioning units and make-up air units/humidifiers. Rooftop structures would be

---

78 Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment.* FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 26, 2016.

79 Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050.* November. Subsequent to the preparation of the *Geotechnical Investigation* prepared for the project, the project applicant determined that a third option discussed in the *Geotechnical Investigation* (a deep pile system consisting of driven, precast, prestressed concrete piles) is not feasible for the project site.

concealed from view by an approximately 20-foot-tall mechanical metal screen along the rooftop perimeter.

As previously stated, the project site is surrounded by industrial and commercial land uses, with the nearest residential land use located approximately 400 feet west of the project site. The City's exterior noise limit for heavy industrial land use zones is 75 dBA L_{max} (anytime), the exterior noise limit for commercial land uses it 65 dBA L_{max} (daytime), and the exterior noise limit for residential land uses is 55 dBA L_{max} (daytime).

Note that the City noise limits for stationary noise sources are not applicable to emergency work, including the operation of emergency generators; however, the generators will be tested intermittently, and these tests are subject to the local noise regulations defined in the City Noise Ordinance.

According to the manufacturer's specification for the Caterpillar C175-16 3000 kW output generator, the operation of this generator results in an overall noise level of 127 dBA at a distance of 7 meters, or approximately 23 feet. Using the attenuation equation which includes a 6 dB noise reduction per doubling of distance, noise levels at a distance of 50 feet (nearby industrial land use) would be approximately 120 dBA, noise levels at the property line of the nearby commercial land use to the north (35 feet from the closest proposed generator) would be approximately 123 dBA, and noise levels at the nearest residential use (approximately 500 feet from the closest proposed generator) would be 100 dBA. Where there is a solid barrier intervening between the equipment and receptors noise would be reduced by 5 to 10 decibels.

As discussed previously, these are emergency generators that would only be operating simultaneously during circumstances involving a power outage at the facility. However, the testing of these generators would be subject to the local noise ordinances. With noise levels of approximately 120 dBA at the two closest land uses (commercial and industrial), and of 100 dBA at the nearest residence, noise levels would be in excess of the local standards. Although fences and, in some cases, masonry walls would be located between the generators and adjacent uses, expected noise levels are so loud that these are not expected to sufficiently reduce generator noise. Furthermore, all of the specific details are not known about other mechanical equipment proposed for the project site, but it is possible that chillers, HVAC equipment, water pumps, and humidifiers could result in excess noise at nearby land uses. Therefore, this impact is considered potentially significant.

Impact NOI-1: Noise levels from mechanical equipment associated with the project could be in excess of noise thresholds. **(Significant Impact)**

Mitigation Measures:

The following mitigation measure would reduce noise from mechanical equipment.

MM NOI-1.1: The project applicant shall prepare and implement measures to ensure that outdoor mechanical equipment does not generate noise levels in excess of the City's applicable noise standard for the applicable zoning category (i.e. 75 dBA noise standard at the nearest heavy industrial uses, 65 dBA at the nearest commercial land uses, and 55 dBA at the nearest residential land uses). All sound, noise, or vibration measurements shall be taken at the closest point to the noise or vibration source on the adjacent real property, or on any other property, affected by the noise or vibration. Measures included in this noise control plan that could help to accomplish this standard include, but are not limited to:

- Installing sound enclosures or barriers around noise-generating mechanical equipment (including but not limited to emergency generators and pumps). The generators may need to be fully enclosed to meet the applicable noise standards.
- Reducing the number of generators tested at once.
- Utilizing mufflers to reduce noise from mechanical equipment, and
- Utilizing quieter equipment (e.g. smaller, quieter generators) that meets this standard.

Prior to the issuance of an occupancy permit, the project applicant shall prepare a report, identifying measures that shall be implemented to ensure that exterior noise levels from mechanical equipment comply with the City's noise standards, to the satisfaction of the Director of Community Development.

Implementation of the identified mitigation measure would reduce noise from mechanical equipment to a less-than-significant level. **(Less Than Significant Impact with Mitigation)**

Loading and Trash Docks

The shipping and receiving areas within the project site (in the western portion of Building A and the eastern portion of Building B, all over 550 feet from the nearest residence) would be used for loading and unloading servers, equipment, and supplies. The shipping and receiving areas would also include dedicated bays for trash and recycling.

Trucks that would be used to pick up trash and recycling as well as pick up and deliver supplies at the project site would create intermittent noise (e.g., from idling engines and the beeping from backup warning signals). However, operation of the project would not involve large-scale commercial services, manufacturing, or similar work that would require frequent truck deliveries and pickups. State law currently prohibits heavy-duty diesel delivery trucks from idling more than 5 minutes.[80] Therefore, due to the short duration and relative infrequency of truck trips to the project site, truck pick ups and deliveries would not impact any sensitive receptors near the project site and would not result in a substantial permanent increase in noise in the vicinity of the project site. **(Less Than Significant Impact)**

Traffic

Although the project would add some traffic to nearby roadway segments, most of the roadway segments used to access the project site from the north (from US 101 or from Central Expressway) are adjacent to industrial land uses, which are not considered noise sensitive. Although it is possible that some traffic may access the project site from the south, it is likely the main segment (with residential land uses along it) that would experience an increase in traffic from the proposed project is the segment of Lafayette Street between Martin Avenue and Memorex Drive. Residences along this segment are located between Shulman Avenue and Memorex Drive near Mathew Street, which provides access to the project site. The Existing peak-hour traffic volumes on Lafayette Street between Shulman Avenue and Mathew Street as well as between Mathew Street and Memorex Drive are shown in Table 4.12-9.

Approximately sixteen employees are anticipated to occupy the building on a given day. As discussed in Section 4.16, *Transportation*, it is estimated that there would be up to 410 trips to and from the facility on

---

[80] California Air Resources Board. 2006. *Final Regulation Order – Requirements to Reduce Idling Emissions from New and In-Use Trucks, Beginning in 2008.* November 15. Available: http://www.arb.ca.gov/regact/hdvidle/hdvidle.htm. Accessed: June 30, 2016.

a given day (including visitors), with an AM peak-hour volume of approximately 37 trips and a PM peak-hour volume of 37 trips. Peak-hour Existing and Existing plus Project volumes for the roadway segments adjacent to residences near the project site (Lafayette Street north and south of Mathew Street) are shown in Table 4.12-8.

TABLE 4.12-8
EXISTING AND EXISTING PLUS PROJECT PEAK-HOUR TRAFFIC VOLUMES ON LAFAYETTE STREET NEAR THE PROJECT SITE.

Roadway Segment	Existing		Existing plus Project	
	AM Peak-hour Volume	PM Peak-hour Volume	AM Peak-hour Volume	PM Peak-hour Volume
Lafayette Street Between Shulman Avenue and Mathew Street	2,089	2,087	2,108	2,106
Lafayette Street Between Mathew Street and Memorex Drive	2,077	2,124	2,096	2,143

Both segments of Lafayette shown in Table 4.12-8 would experience an increase in traffic from project implementation of approximately 19 trips in the AM peak hour and 19 trips in the PM peak hour. Since Existing peak-hour volumes are over 2,000 for both the AM and PM peak hour on these roadway segments, adding 19 project-related trips to these totals would have a very small effect on traffic noise. Specifically, this would be a less than 1 percent increase in traffic, which would result in less than a 0.1 dB increase in traffic noise. Therefore, traffic noise increases would be well below 3 dB (the threshold of a perceptible noise increase) along roadway segments near the project site (including those near residential receptors), and project traffic would not impact any sensitive receptors near the project site. The project would not result in traffic noise levels in excess of applicable thresholds, and would not result in a substantial permanent increase in noise in the vicinity of the project site. **(Less Than Significant Impact)**

4.12.2.4 Exposure of Persons to Excessive Noise Levels from Public Airports and Private Air Strips

The project site is located approximately 0.3 mile (1,750 feet) west of the Norman Y. Mineta San Jose International Airport, the nearest airport, and is located just outside Airport's noise zone (the 65 CNEL contour, as set forth by state law) as defined in the Comprehensive Land Use Plan for the airport.[81] The 65 CNEL contour extends as far as Mathew Street near the project site, but the project site itself is located outside of this contour. As previously stated, for industrial land uses, noise levels of up to 70 CNEL are considered normally acceptable. Thus, persons would not be exposed to excessive noise levels from this or any other nearby public airports. In addition, there are no private airstrips located in the vicinity of the project site. **(Less Than Significant Impact)**

[81] Santa Clara County Airport Land Use Commission. 2011. *Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San Jose International Airport*. May 25. Available: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf. Accessed October 20, 2016.

4.12.3 Conclusion

With the implementation of the proposed mitigation measure, the project would have less-than-significant noise impacts. **(Less Than Significant Impact with Mitigation)**

4.13 POPULATION AND HOUSING

4.13.1 Setting

According to California Department of Finance data, the City has a population of approximately 123,752 residents as of January 1, 2016.[82] ABAG projects that the City's population will increase to 135,000 residents by 2025.[83]

The jobs/housing ratio quantifies the relationship between the number of housing units required as a result of local jobs and the number of residential units available in the City. When the ratio reaches 1.0, a balance is struck between the supply of local housing and local jobs. The jobs/housing ratio is determined by dividing the number of local jobs by the number of employed residents that can be housed in local housing.

The City has fewer employed residents than jobs with a ratio of approximately two jobs per employed resident.[84] Accordingly, most employees within the City are required to seek housing outside the community. ABAG is projecting that jobs in Santa Clara will increase to 134,650 by 2025.[85]

4.13.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

---

[82] State of California Department of Finance. *E-1 Population Estimates for Cities, Counties, and the State—January 1, 2015 and 2016.* May 2016. Available: http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php. Accessed: September 27, 2016.

[83] Association of Bay Area Governments (ABAG). *Projections 2013.* December 2013.

[84] Based on the ABAG-projected 106,750 jobs in 2010 and Santa Clara General Plan Housing Element.

[85] ABAG. Projections 2013. December 2013.

4.13.2.1 Impacts to Population and Housing

The project would demolish all of the existing on-site structures and associated surface parking and construct two new four-story data center buildings with supporting parking and an electrical substation. The proposed buildings would be on existing industrial sites and would not displace housing or residents. The project would not induce any direct population or housing growth on the project site.

Because the primary function of the proposed data center buildings would be to house servers, the project would employ a minimal number of employees. Specifically, at full build-out, the proposed project is anticipated to employ approximately 29 employees. This number of employees would have a negligible effect on induced population and housing growth in the City. As such, approval of the project would not result in an appreciable increase in jobs in the City, would not induce substantial population growth in the City, and would not substantially alter the City's jobs/housing ratio. The project, therefore, would result in a less than significant population and housing impact. **(Less Than Significant Impact)**

4.13.3 Conclusion

The project would not result in significant population or housing impacts. **(Less Than Significant Impact)**

4.14 PUBLIC SERVICES

4.14.1 Setting

4.14.1.1 Fire Services

Fire protection and emergency medical response services for the project site are provided by the Santa Clara Fire Department (SCFD). Santa Clara County Emergency Medical Services contracts with Rural Metro to provide emergency medical transport services for the City. The SCFD comprises approximately 130 fire service personnel.[86] The SCFD consists of 10 stations distributed throughout the City. The closest fire station to the project site is Fire Station 1 located at 777 Benton Street, one mile south of the project site.

4.14.1.2 Police Protection Services

Police protection services for the project site are provided by the Santa Clara Police Department (SCPD). In the case of extreme emergency, there is a mutual aid agreement with surrounding jurisdictions. The SCPD has 216 full-time employees, including 149 sworn officers and 67 civilians.[87] In 2015, the SCPD received approximately 56,757 calls for service and 27,583 self-initiated calls for service. The SCPD has two police stations that service the City, with headquarters at 601 El Camino Real and the Northside Substation in Rivermark Village at 3992 Rivermark Parkway. The Northside Substation is a satellite

---

86 Andrew Hyatt, Fire Prevention Specialist, City of Santa Clara Fire Department. Fire Prevention and Hazardous Materials Division. Email communication on August 15, 2016.

87 City of Santa Clara. 2016. Santa Clara Police Department – About Us. Available: http://santaclaraca.gov/government/departments/police-department/about-us. Accessed: September 28, 2016.

police facility that allows officers to conduct training, host meetings, and file police reports.[88] As such, the project site would be served by the SCPD headquarters located 1.3 miles south of the project site.

4.14.1.3 Schools

The Santa Clara Unified School District (SCUSD) provides public education services to students in the City. The SCUSD consists of 16 elementary, three middle, two high schools, one K–8 school, one continuation high school, one alternative high school, one community day school, and one educational options/adult education campus.[89] The SCUSD serves approximately 15,434 K–12 students and 1,731 alternative schools and program of choice students. The project site is in the school district boundaries of the following schools:[90]

- Scott Lane Elementary School at 1925 Scott Boulevard, 0.5 mile southwest of the project site;
- Buchser Middle School at 1111 Bellomy Street, 1.6 mile south of the project site; and
- Santa Clara High School at 3000 Benton Street, 3.2 mile southwest of the project site.

4.14.1.4 Parks

The closest parks to the project site are Reed Street Dog Park (located 0.3 mile south of the project site) and Larry J. Marsalli Park (located 0.6 mile south of the project site).

4.14.1.5 Libraries

Library services for the project site are provided by the Santa Clara City Library (SCCL), which consists of three libraries: the Central Park Library at 2635 Homestead Road, Mission Library Family Reading Center at 1098 Lexington Street, and Northside Branch Library at 695 Moreland Way.[91] The closest library to the project site is the Mission Library Family Reading Center, which is approximately 1.5 miles south of the project site.

---

[88] City of Santa Clara. 2016. Santa Clara Police Department – Northside Substation. Available: http://santaclaraca.gov/government/departments/police-department/community/northside-substation. Accessed: September 28, 2016.

[89] Santa Clara Unified School District. 2016. Fast Facts. Available: http://www.santaclarausd.org/overview.cfm?subpage=122626. Accessed: September 28, 2016.

[90] Santa Clara Unified School District. 2016. SchoolFinder – 2015 -16 School Year Boundary Lookup. Available: http://www.schfinder.com/SantaClaraUSD/Lookup.aspx?DistrictID=0635430. Accessed: September 28, 2016.

[91] City of Santa Clara. 2016. Santa Clara City Library – About the Library. Available: http://santaclaraca.gov/government/departments/library/about-the-library. Accessed: September 28, 2016.

4.14.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire Protection?	☐	☐	☒	☐
Police Protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other Public Facilities?	☐	☐	☒	☐

4.14.2.1 Impacts to Public Services

The project would demolish the existing on-site industrial warehouses, manufacturing, and office facilities as well as associated surface parking and construct two new four-story data center buildings with supporting parking and an electrical substation. As discussed in Section 4.13, *Population and Housing*, the project would not introduce any new residents to the project site. Additionally, because the primary function of the proposed data center buildings would be to house servers, the project would employ a minimal number of employees. Specifically, the proposed project is anticipated to employ approximately 29 employees. This number of employees would have a negligible effect on induced population and housing growth in the City.

Fire and Police Protection. The project would be located on a site that is already served by fire, emergency, and police protection services. The 29 employees that would be generated by the project would have a negligible effect on the service populations of the fire and police stations that serve the project site. The project would be completed in conformance with the Santa Clara Municipal Fire and Environmental Code to reduce potential fire hazards. Because of the nature of the data center function, the entire project site would be secured by fencing, which minimizes criminal activity. The project would also include security cameras and secure lobby entrances with full-time coverage to monitor the site and provide support services, which would further minimize criminal activity. Therefore, while the project could incrementally increase demand for fire, emergency, and police protection services, the project would not result in substantial adverse physical environmental impacts associated with the provision of other new or physically altered fire, emergency, or police service facilities in order to maintain acceptable service ratios, response times, or other performance objectives. **(Less Than Significant Impact)**

Schools. The project would not include new residential uses in the City and, thus, would not directly generate any students. Further, the 29 employees that would be generated by the project would have a negligible effect on the service populations of the schools that serve the project site. Therefore, the project would not trigger the need for expansion or construction of new schools. **(Less Than Significant Impact)**

Parks. Under the project, approximately 29 employees are anticipated to occupy the building. The project would not substantially increase employment and, as discussed previously, would not include new residential uses in the City. Although it is possible that employees could use Reed Street Dog Park and Larry J. Marsalli Park or other nearby parks, such use would likely be modest given the number of employees proposed under the project and the distance between the site and the parks. Therefore, while the project could incrementally increase demand for park services, the project would not result in substantial adverse physical environmental impacts associated with the provision of other new or physically altered park facilities in order to maintain acceptable service ratios or other performance objectives. **(Less Than Significant Impact)**

Libraries. The project would not include new residential uses in the City and, thus, would not directly generate any new residents in the service area of the SCCL. It is unlikely that the 29 employees proposed under the project would be attracted to the closest library, Mission Library Family Reading Center, during lunch breaks and/or after work due to the 1.5 miles between the site and the library. Therefore, while the project could incrementally increase demand for library services, the project would not result in substantial adverse physical environmental impacts associated with the provision of other new or physically altered library facilities in order to maintain acceptable service ratios or other performance objectives. **(Less Than Significant Impact)**

4.14.3 Conclusion

Based on the above analysis, the project would not substantially increase the demand for fire, emergency, or police protection services within the City and would have no significant impact on the use of school, parks, libraries, or other public facilities. The project would not result in significant impacts on public services or public facilities within the City. **(Less Than Significant Impact)**

4.15 RECREATION

4.15.1 Setting

The City of Santa Clara Parks & Recreation Department (Department) is responsible for maintaining and programming the various parks and recreation facilities, and works cooperatively with public agencies in coordinating all recreational activities within the City. Overall, the Department maintains and operates Central Park (a 52-acre community park), 25 neighborhood parks (122.67 acres), 5 mini parks (2.59 acres), public open space (16.13 acres improved and 40.08 acres unimproved), recreational facilities (14.86 acres, excluding the Santa Clara Golf and Tennis Club and BMX track), recreation trails (3.72 acres) and joint use facilities (47.52 acres) throughout the city totaling approximately 252.53 improved acres. Community parks are over 15 acres, neighborhood parks are 1 to 15 acres and mini parks are typically less than 1 acre in size.

The closest parks to the project site are Reed Street Dog Park (located 0.3 mile south of the project site) and Larry J. Marsalli Park (located 0.6 mile south of the project site).

4.15.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☒	☐
2. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

4.15.2.1 Recreational Impacts

The project would not include new residential uses, and the estimated 29 employees that would be generated by the project (see Section 4.13, *Population and Housing*) would have a negligible effect on the permanent population of the City. Although it is possible that employees could use Reed Street Dog Park, Larry J. Marsalli Park, or other nearby parks, such use would likely be modest given the number of employees proposed under the project. The project would not cause physical deterioration of existing recreational facilities, or require the expansion of existing recreational facilities which might have an adverse effect on the environment. **(Less Than Significant Impact)**

4.15.3 Conclusion

The project would not cause physical deterioration of recreational facilities within the City, nor require the construction of new facilities. The project would not result in significant impacts on recreation. **(Less Than Significant Impact)**

4.16 TRANSPORTATION

Unless otherwise noted, the following discussion of potential impacts related to transportation is based on the *Traffic Evaluation* prepared for the project, which is included in Appendix G of this Initial Study.[92]

4.16.1 Setting

4.16.1.1 Existing Roadway Network

Regional access to the project site is provided by US 101 and Central Expressway (discussed below). Local access to the project site is provided by Lafayette Street and Mathew Street.

Central Expressway is generally a six-lane east-west expressway. In the vicinity of the project site, the Central Expressway has a width of six lanes.

92 Kimley-Horn. 2016. *Santa Clara Vantage Data Center Traffic Evaluation.* September 29, 2016.

Lafayette Street is a major arterial roadway that generally extends in a north-south direction through Santa Clara. In the vicinity of the project site, Lafayette Street is a five-lane roadway, with two northbound and southbound lanes and a center turn lane.

Mathew Street is a two-lane local roadway that extends east from Lafayette Street in an east-west direction for a distance of approximately 950 feet. It terminates with a cul-de-sac adjacent to the Union Pacific Railroad corridor. Mathew Street provides access to surrounding industrial and commercial areas. Direct access to the project site is provided via three driveways along Mathew Street.

4.16.1.2 Existing Intersection Operations

Level of Service (LOS) is a qualitative assessment of perceived traffic conditions by motorists. LOS generally reflects driving conditions such as travel time and speed, freedom to maneuver, and traffic interruptions. LOS uses quantifiable traffic measures such as average speed, intersection delay, and volume-to-capacity ratio to determine driver satisfaction. LOS is reported for individual intersections and is designated by a range of letters – "A" represents the most favorable conditions (free flow) and "F" represents the least favorable conditions (jammed with excessive delays).

Methodology

Intersection LOS analysis for the AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak hour traffic was conducted for selected intersections following the methodology established in the Transportation Research Board's *Highway Capacity Manual 2000* within the Traffix software. This approach is consistent with the standards and methodology set forth by the City of Santa Clara and Santa Clara County Congestion Management Program (CMP) administered by Santa Clara Valley Transportation Authority (VTA). Intersection LOS analysis was conducted for the following five intersections:

- Lafayette Street and Central Expressway
- Lafayette Street and Walsh Avenue
- Lafayette Street and Martin Avenue
- Lafayette Street/Memorex Drive to Mathew Street
- Lafayette Street and El Camino Real

Based on existing roadway geometries and traffic controls, traffic conditions were evaluated for existing conditions and existing plus project conditions. Existing plus project conditions were assessed by adding traffic volumes generated by the proposed project to existing traffic volumes.

Existing Levels of Service

Existing traffic conditions were evaluated at five intersections along Lafayette Street between Central Expressway and El Camino Real. As shown in Table 4.16-1, all study intersections currently function with acceptable LOS standards.

TABLE 4.17-1
EXISTING INTERSECTION LEVEL OF SERVICE SUMMARY

Intersection	LOS Criteria	Existing AM Peak LOS	Existing PM Peak LOS
Lafayette Street and Central Expressway	E	E+	E
Lafayette Street and Walsh Avenue	D	B	B-
Lafayette Street and Martin Avenue	D	B-	B-

TABLE 4.17-1 EXISTING INTERSECTION LEVEL OF SERVICE SUMMARY			
Intersection	**LOS Criteria**	**Existing AM Peak LOS**	**Existing PM Peak LOS**
Lafayette Street/Memorex Drive to Mathew Street	D	A	B+
Lafayette Street and El Camino Real	E	D	D+
Source: Kimley-Horn. 2016. *Santa Clara Vantage Data Center Traffic Evaluation.* September 29, 2016.			

4.16.1.3 Existing Transit Services

Transit service in the area includes rail service provided by Caltrain and Altamont Corridor Express (ACE), and local bus and shuttle service provided by Santa Clara Valley Transportation Authority (VTA). VTA oversees the Santa Clara County Congestion Management Program (CMP).

Local Bus Service

Two local bus routes and one limited stop bus route serve the area near the project site. VTA Route 58 provides weekday service between West Valley Community College to Alviso, with a stop at Lafayette and Central Expressway in the project vicinity. VTA Route 60 provides weekday and weekend service from Winchester Transit Center to Great America, with a stop west of the project site at Scott Boulevard and Central Expressway. VTA Route 304 operates north and east of the project site on weekdays along Central Expressway and De La Cruz Boulevard and provides limited stops between South San Jose to Sunnyvale Transit Center.[93]

Caltrain

The Santa Clara Caltrain Station is located approximately one mile south of the project site on Railroad Avenue and El Camino Real in Santa Clara. Caltrain commuter rail provides service between San Francisco to Gilroy with headways of between 5- to 60-minutes on weekdays.[94]

Altamont Corridor Express (ACE)

ACE provides service between Stockton and San Jose via eight daily trains on weekdays. In the project vicinity, it stops at the Santa Clara Transit Center, approximately one mile south of the project site on Railroad Avenue and El Camino Real in Santa Clara.[95]

---

93 Santa Clara Valley Transportation Authority. *Bus & Rail Map (Effective January 4, 2016).* Available: http://www.vta.org/getting-around/maps/bus-rail-map. Accessed: October 2, 2016.

94 Caltrain. 2016. *Printer-Friendly Caltrain Schedule*. Effective April 4, 2016. Available: <http://www.caltrain.com/Assets/Assets/Schedules/Weekday+Southbound+Printer-Friendly+Schedule+04042016.pdf >. Accessed: September 30, 2016.

95 Altamont Corridor Express (ACE). *Schedule.* Available: http://www.acerail.com/Getting-You-There/Timetable-and-Fare-Chart/train-schedule. Accessed: October 10, 2016.

4.16.1.4 Existing Pedestrian and Bicycle Facilities

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. There are no sidewalks along Mathew Street, which forms the southern boundary of the project site. A sidewalk is provided along the western side of Lafayette Street. The existing sidewalks in the vicinity of project site have adequate connectivity and provide pedestrians with safe routes to most surrounding land uses in the area.

Bicycle Facilities

Bicycle facilities include paths (Class I), lanes (Class II) and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are lanes on roadways designated for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only. The closest bicycle facility to the project site is the Class II bicycle lane on Central Expressway.[96]

4.16.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non- motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☒	☐
5. Result in inadequate emergency access?	☐	☐	☒	☐

96 City of Santa Clara. 2014. *City of Santa Clara 2010-2035 General Plan*. Updated December 9. Available: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan. Accessed: September 20, 2016.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

4.16.2.1 Impact Criteria

The LOS standard for a signalized intersection in the City of Santa Clara is LOS D or better during the AM or PM peak periods. Acceptable LOS for signalized intersections that are included in the Santa Clara County CMP is LOS E or better. Intersections that are included in the Santa Clara County CMP are the Lafayette Street and Central Expressway intersection and the Lafayette Street and El Camino Real intersection.

Significant impacts at signalized intersections would occur when the addition of the project traffic would result in the following conditions:

- If the intersection operates at an acceptable LOS without the project and degrades to an unacceptable LOS (i.e. LOS E or F for City intersections and LOS F for CMP intersections).
- If the intersection operates at an unacceptable LOS (LOS E or F for City intersections; LOS F for CMP intersections) without the project and the project increases the average control delay for the critical movements by four (4) or more seconds and increases the critical volume to capacity (v/c) by 0.01 or more.
  - If the addition of the project traffic reduces the amount of average control delay for a critical movement (i.e. negative change in delay) and the project increases the v/c by 0.01 or more.

4.16.2.2 Traffic

Construction

Demolition and construction activities would require use of construction vehicles. In addition, demolition and construction would generate traffic from hauling demolition debris to the recycling facility and nearest landfill. Demolition and construction traffic would also include construction worker commute traffic. Demolition and construction would temporarily increase the number of vehicular trips, including construction worker and hauling truck trips, in the Project vicinity for approximately 15 months. An average of approximately 17 construction-related truck trips would occur daily, with a maximum of 330 trips per day during the peak construction period. The number of construction workers on-site would typically be 65 per day. The peak number of construction workers on-site is expected to be 300.

For purposes of this analysis, it is assumed that construction would occur 8 hours per day five days a week. Many of the construction worker commute trips would be expected to occur prior to morning peak hour and prior to the evening peak hour, which is reflective of typical work schedules in the construction industry. The temporary truck-hauling trips would also generate trips throughout the 8-hour work day and would be scheduled to occur outside of peak traffic hours to the extent feasible. The addition of up to approximately 300 worker trips (600 trips total, including both the trips to and from the project site) and truck trips during the peak hours would not be a substantial amount of additional traffic and is not anticipated to lower existing LOS to an unacceptable level. Overall, project traffic impacts during demolition and construction would be temporary in nature and less than significant. **(Less Than Significant Impact)**

Operation

The project would demolish all of the existing on-site structures and associated surface parking and construct two new four-story data center buildings with supporting parking and an electrical substation. Vehicle ingress and egress would be provided by four new gated driveways along Mathew Street, and approximately 162 parking spots would be provided within the project site. At full build-out, the proposed project is anticipated to employ approximately 29 employees, including 14 operations personnel, 13 security personnel, and 2 janitors. Security and operations personnel would be employed in shifts, resulting in a maximum of 16 employees on-site in a given day (9 operations personnel, 5 security personnel, and 2 janitors). Visitors and deliveries to the project site would also generate occasional trips.

The need for the preparation of a transportation impact analysis (TIA) for a particular development is based on its estimated trip generation and its effect on surrounding transportation facilities. For this analysis, the criterion used to determine the need for a traffic study is based on the City of Santa Clara trip generation thresholds and level of service standards.

The city requirements for a full traffic study based on trip generation are as follows:

1. New development that generates 100 peak hour trips or more based on the Institute of Transportation Engineers (ITE) Trip Generation Manual;
2. New development that generates less than 100 peak hour trips and impacts a traffic sensitive corridor where an existing intersection exceeds the CMP (LOS) standard or is very close to the standard limit, and
3. New development that generates less than 100 peak hour trips and there is community concern about traffic impacts to a residential neighborhood.

Based on the minimal number of employees and visitors associated with the project, implementation of the project is anticipated to generate less than 100 new peak hour trips. Specifically, the proposed project is estimated to generate 410 daily trips, 37 trips in the AM peak hour, and 37 trips in the PM peak hour.[97] The number of net new project trips would likely be reduced when accounting for the removal of the trips to and from the project site that are currently generated by the approximately 60 existing employees at the project site; therefore, this analysis is conservative. The project would not impact a traffic sensitive corridor, and there is no community concern about traffic impacts to a residential neighborhood. Due to the low number of project-generated trips, a TIA is not required to be prepared for the project. Nonetheless, a *Traffic Evaluation* was prepared for the project. Furthermore, while the project is not required to develop and implement a TDM Program to reduce project trips, the project would include the following elements, or alternative equivalents, in a TDM Program:

- Pre-tax deductions for employee transit costs;
- Flexible work schedules and opportunities to telecommute;
- Bicycle parking and storage facilities;
- Showers for employees walking, biking, or taking alternative modes of transportation to work;
- Video conferencing software;

[97] Kimley-Horn. 2016. *Santa Clara Vantage Data Center Traffic Evaluation.* September 29, 2016.

- Four electric vehicle charging stations that would serve nine electric vehicle parking spots;
- Preferred carpool/vanpool and electric vehicle parking; and
- On-site food and beverage amenities to reduce off-site traffic trips.

Overall, due to the minimal amount of employees and visitors at the project site as well as the proposed TDM Program, the project would have minimal traffic impacts during operation. **(Less Than Significant Impact)**

4.16.2.3 Existing Plus Project Intersection Operations

Existing plus project intersection LOS was evaluated for the proposed project at five intersections along Lafayette Street between Central Expressway and El Camino Real. As shown in Table 4.16-2, all study intersections would function within acceptable LOS standards under the existing plus project operational scenario, and no change in LOS would occur compared to existing conditions (refer to Table 4.16-1). As a result, the proposed project would have minimal transportation LOS impacts to signalized intersections. **(Less Than Significant Impact)**

TABLE 4.17-2
EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY

Intersection	LOS Criteria	Existing Plus Project AM Peak LOS	Existing Plus Project PM Peak LOS
Lafayette Street and Central Expressway	E	E+	E
Lafayette Street and Walsh Avenue	D	B	B-
Lafayette Street and Martin Avenue	D	B-	B-
Lafayette Street/Memorex Drive to Mathew Street	D	A	B+
Lafayette Street and El Camino Real	E	D	D+

Source: Kimley-Horn. 2016. *Santa Clara Vantage Data Center Traffic Evaluation.* September 29, 2016.

4.16.2.4 Transit Operations and Pedestrian/Bicycle Facilities

Transit Operations

Employees and visitors generated by the proposed project would result in a minimal increase in transit demand. It is anticipated that VTA, Caltrain, ACE, and the existing bus services can accommodate an increase in ridership demand resulting from the project. In addition, regular bus service provided by VTA would continue as usual throughout demolition and after the project is completed. Caltrain and ACE service would also not be affected by construction or operation of the project. Therefore, the proposed project would not alter existing transit facilities or conflict with the operation of existing or planned facilities. In addition the project would not conflict with any adopted programs or policies associated with transit. **(Less Than Significant Impact)**

Pedestrian and Bicycle Facilities

As previously discussed, there are sidewalks and crosswalks in the vicinity of the project site that provide access to nearby transit. The closest bicycle facility to the project site is the Class II bicycle lane on Central Expressway. Although the environment may be less appealing for bicyclists and pedestrians at the project site during demolition and construction, the project would not directly obstruct any existing sidewalks or bicycle facilities. Employees and visitors generated by the project would result in a minimal increase in demand for pedestrian and bicycle facilities in the vicinity of the project site. However, the project would not result in conflicts with pedestrians in the vicinity of the project site. In addition, the project would not alter existing bicycle facilities and would not conflict with existing or planned bicycle facilities. The increase in bicycle usage on the nearby facilities is not anticipated to exceed the capacity of those facilities. Therefore, the project would not result in unsafe conditions for bicyclists. In addition, the project would not conflict with any adopted programs or policies associated with pedestrian and bicycle facilities. **(Less Than Significant Impact)**

4.16.2.5 Other Transportation Issues

Airport Operation

The project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport, and is within the Norman Y. Mineta San Jose International Airport Influence Area. The height of the proposed buildings to the top of the metal screen would be approximately 107.5 feet above ground surface. Airport safety hazards associated with the Norman Y. Mineta San Jose International Airport were evaluated according to airport safety zones and Federal Aviation Regulations Part 77 airspace surfaces.[98] The project site is outside of all airport safety zones with the exception of the traffic pattern zone, which restricts development types with high concentrations of people (e.g. sports stadiums). Additionally, the proposed project would not intrude upon the Part 77 airspace surface for the Norman Y. Mineta San Jose International Airport, which establishes a maximum structure height of 212 feet (above mean sea level) for the project site.[99] In addition, in accordance with FAA requirements, the project applicant would complete and submit all necessary notices and documentation to the FAA to obtain the necessary approvals for construction in compliance with FAA's Notice of Proposed Construction requirements. Due to compliance with applicable regulations set forth by the Norman Y. Mineta San Jose International Airport and the FAA, the project would not result in a change in air traffic patterns or obstruct airport operations. **(Less Than Significant Impact)**

Emergency Access and On-Site Circulation

Vehicle ingress and egress would be provided by four new gated driveways along Mathew Street. The central entry would provide the main passenger vehicle and pedestrian access to the site, while the east and west entries are intended for service vehicles related to loading and deliveries. The service vehicles would drive around the north portion of the project site and exit through the middle exit driveway. Based upon a review of Figure 3.0-4 in Section 3.0, *Project Description*, the project would not increase on-site hazards due to the design of the proposed building, parking, or other on-site improvements, and would not result in inadequate emergency access. In addition, truck turning movements at the east and west entry driveways would be adequate. **(Less Than Significant Impact)**

---

98 A Part 77 airspace surface is an imaginary surface of a takeoff and landing area of an airport stablished for the airport under 14 CFR Part 77.24 as a means to identify objects that are obstructions to air navigation.

99 Santa Clara County Airport Land Use Commission. 2011. *Norman Y. Mineta San Jose International Airport Comprehensive Land Use Plan.* Available: <https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_20110525_SJC_CLUP.pdf >. Accessed: September 26, 2016.

On-Site Queuing

Queue lengths were evaluated for the southbound and eastbound approaches at the central entry and exit. The queue lengths for both southbound and eastbound approaches would be minimal and, therefore, the project would not cause any queuing impacts. **(Less Than Significant Impact)**

Parking

The City of Santa Clara's Zoning Ordinance does not provide a minimum number of parking spaces for a data center. However, the proposed project is estimated to provide enough parking for its employees and visitors. To provide a conservative analysis, it was assumed that each of the 29 employees would arrive on-site at the same time and each would drives individually (requiring 29 employee parking spaces). Approximately 162 parking spots would be provided within the project site, which would allow for 133 parking spaces for visitors to the project site. It is not anticipated that the 133 parking spaces would be necessary for visitors to the site on a consistent basis. Therefore, the proposed parking supply would be adequate to satisfy the City's parking requirements. **(Not a CEQA Impact; Provided for Informational Purposes Only)**

4.16.3 Conclusion

The project would not result in significant transportation impacts. **(Less Than Significant Impact)**

4.17 UTILITIES AND SERVICE SYSTEMS

Unless otherwise noted, the following discussion of existing utilities in the vicinity of the project site is based on the *Existing Utilities Plan* and the *Due Diligence Report* prepared for the project.[100,101]

4.17.1 Setting

4.17.1.1 Water Service

Potable Water

The water system in the City is operated and maintained by the City's Water and Sewer Utility. This system is supplied with potable water from three sources: Santa Clara Valley Water District (SCVWD), which gets its water from the San Joaquin Delta, local surface water sources, and local groundwater; the San Francisco Public Utilities Commission (SFPUC), which gets its water from the Hetch Hetchy system; and 26 groundwater wells operated by the City's Water and Sewer Utility. The three sources are used interchangeably or are blended together. In 2015, about 35 percent of the City's potable water came from the imported treated water supplies (the SCVWD and SFPUC).[102] Groundwater made up approximately 65 percent of the City's potable water supply in 2015. The water system in the City consists of more than 335 miles of distribution mains, the 26 groundwater wells discussed above, and seven storage tanks with approximately 28.8 million gallons of water capacity. According to the 2015 Urban Water Management

---

[100] Planning Submittal for the McLaren Project, dated September 16, 2016.

[101] Kier & Wright Civil Engineers & Surveyors, Inc., 2016. *Vantage Data Center Due Diligence Report*. July 20, 2016.

[102] City of Santa Clara. 2016. *2015 Urban Water Management Plan*. Adopted November 22. Available: http://santaclaraca.gov/home/showdocument?id=48088. Accessed: December 13, 2016.

Plan (UWMP) prepared for the City, which the Santa Clara City Council approved and adopted on November 22, 2016, the citywide demand for potable water in 2015 was 17,620 acre-feet.[103]

Water service to the project site is provided via a 10-inch potable water line under Mathew Street.

Recycled Water

Recycled water is supplied from South Bay Water Recycling (SBWR), which provides advanced tertiary treated water from the San Jose – Santa Clara Regional Wastewater Facility (formerly known as the San Jose/Santa Clara Water Pollution Control Plant) (discussed in more detail below). In 2015, recycled water purchased from the SBWR made up approximately 17 percent of the overall water use in the City.[104] The City of Santa Clara recycles approximately one percent of its water through non-potable uses by businesses, industries, parks, and schools along pipeline routes. The City's recycled water program delivers recycled water throughout the City for landscaping, parks, public services, and businesses. According to the 2015 UWMP, the citywide recycled water demand in 2015 was 3,529 acre-feet.[105]

A 12-inch recycled water line is located under Mathew Street. Currently, there are no recycled water laterals serving the project site.

4.17.1.2 Wastewater Services

The City of Santa Clara Departments of Public Works and Water and Sewer Utilities are responsible for the wastewater collection system within the City. Wastewater is collected by sewer systems in Santa Clara and is conveyed by pipelines to the San Jose-Santa Clara Regional Wastewater Facility (Regional Wastewater Facility). The Regional Wastewater Facility is owned jointly by the Cities of San Jose and Santa Clara and is operated by the City of San Jose's Department of Environmental Services.[106] The facility is one of the largest advanced wastewater treatment facilities in California and serves over 1.4 million people in San Jose, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno.[107] The Regional Wastewater Facility provides primary, secondary, and tertiary treatment of wastewater. The Regional Wastewater Facility treats an average of 110 million gallons of wastewater per day (mgd), which is 57 mgd (or 35 percent) under its 167-mgd treatment capacity.[108] Currently, the Regional Wastewater Facility is operating under a 120 million gallon per day dry weather effluent flow constraint. Approximately 13 percent of the Regional Wastewater Facility's effluent flows to SBWR's adjacent pump station for non-potable uses and the remainder flows into San Francisco Bay.[109]

---

[103] City of Santa Clara. 2016. *2015 Urban Water Management Plan*. Adopted November 22. Available: http://santaclaraca.gov/home/showdocument?id=48088. Accessed: December 13, 2016.

[104] City of Santa Clara. 2016. *2015 Urban Water Management Plan*. Adopted November 22. Available: http://santaclaraca.gov/home/showdocument?id=48088. Accessed: December 13, 2016.

[105] City of Santa Clara. 2016. *2015 Urban Water Management Plan*. Adopted November 22. Available: http://santaclaraca.gov/home/showdocument?id=48088. Accessed: December 13, 2016.

[106] City of San José Environmental Services. About Us. Available at: http://www.sanjoseca.gov/index.aspx?NID=4544. Accessed: October 14, 2016.

[107] City of San José Environmental Services. San José/Santa Clara Water Pollution Control Plant. Available at: http://www.sanjoseca.gov/index.aspx?NID=1663. Accessed: October 14, 2016.

[108] City of San José Environmental Services. San José/Santa Clara Water Pollution Control Plant. Available at: http://www.sanjoseca.gov/index.aspx?NID=1663. Accessed: October 14, 2016.

[109] City of San José Environmental Services. San José/Santa Clara Water Pollution Control Plant. Available at: https://www.sanjoseca.gov/DocumentCenter/View/34681. Accessed: October 14, 2016.

The San José-Santa Clara Regional Wastewater Facility is currently operating under a 120 mgd dry weather effluent flow constraint. This requirement is based upon the State Water Resources Control Board and the Regional Water Quality Control Board concerns over the effects of additional freshwater discharges from the Regional Wastewater Facility on the saltwater marsh habitat, and pollutant loading to the Bay. The NPDES permit for the Regional Wastewater Facility, which includes wastewater discharge requirements, was reissued September 2014.[110]

Wastewater from the project site discharges to an 8-inch sanitary sewer line (lateral), 14-inch sanitary sewer line (lateral), 10-inch sanitary sewer line (lateral), 12-inch sanitary sewer line (lateral), and a 4-inch sanitary sewer line (lateral). Wastewater then discharges to a 15-inch and 18-inch vitrified clay pipe (main) under Mathew Street. Public sanitary sewer lines that serve the project site are maintained by the City of Santa Clara Sewer Utility.

4.17.1.3 Storm Drainage

The City of Santa Clara owns and maintains the municipal storm drainage system in the vicinity of the project site. The City's storm drain system consists of curb inlets that collect and channel surface water, from rainfall and other sources, into a series of pipelines beneath City roadways. Stormwater from the project site drains by a combination of surface flow and underground pipes (including 6-inch pipes and a 12-inch lateral) towards Mathew Street and ultimately discharges into a 33-inch storm drain under Mathew Street.

4.17.1.4 Solid Waste

Solid waste and recycling collection for businesses at commercial and institutional properties in the City of Santa Clara is provided by Mission Trail Waste Systems through a contract with the City.[111] Newby Island Landfill, located in San José, provides disposal capacity to nearby cities, including San José, Milpitas, Santa Clara, Cupertino, Los Altos, and Los Altos Hills.[112] The City has an arrangement with the owners of the Newby Island Landfill to provide disposal capacity for the City through 2024, as well as other landfills located outside of the County, according to the City's General Plan.[113,114] The Santa Clara County Integrated Waste Management Plan estimates there is adequate waste capacity through its planning horizon of 2024.[115] The Newby Island Landfill has a permit to accept a maximum of 3,260 tons of solid waste per day and has a remaining disposal capacity of 21.2 million cubic yards (cy).[116]

---

110 San José-Santa Clara Regional Wastewater Facility. 2015. *2015 Annual Self-Monitoring Report. Reporting Period January 1- December 31, 2015*. Available at: http://www.sanjoseca.gov/ArchiveCenter/ViewFile/Item/2797. Accessed: October 14, 2016.

111 City of Santa Clara. 2015. Commercial Garbage & Recycling. Available: http://santaclaraca.gov/index.aspx?page=2687. Accessed: October 14, 2016.

112 City of San José. 2014. Planning Commission Staff Report: PD14-014. Available: http://www.sanjoseca.gov/DocumentCenter/View/38008. December 10. Accessed: October 14, 2016.

113 City of Santa Clara. 2010. Resolution No. 10-7737. Available: http://santaclaraca.gov/modules/showdocument.aspx?documentid=2744. Accessed: October 14, 2016.

114 City of Santa Clara. 2014. *City of Santa Clara 2010-2035 General Plan*. Updated December 9. Available: http://santaclaraca.gov/home/showdocument?id=13934. Accessed: October 14, 2016.

115 City of Santa Clara. 2011. *Integrated Final Environmental Impact Report, City of Santa Clara Draft 2010-2035 General Plan*. January. Available: http://santaclaraca.gov/home/showdocument?id=12900. Accessed: October 14, 2016.

116 CalRecycle. n.d.a. Facility/Site Summary Details: Newby Island Sanitary Landfill (43-AN-0003). Available: http://www.calrecycle.ca.gov/SWFacilities/Directory/43-AN-0003/Detail/. Accessed: October 14, 2016.

The City of Santa Clara has a waste diversion goal of 50 percent set by the Santa Clara County Integrated Waste Management Plan. As of 2011 (the most recent year for which data approved by CalRecycle is available), the City is exceeding its diversion goal.[117]

4.17.1.5 Natural Gas and Electricity

Pacific Gas and Electric (PG&E) provides natural gas and electrical services to the vast majority of Northern California. However, some cities, like Santa Clara, have historically provided their own municipal electric supply. The City of Santa Clara's municipal electric utility, SVP, provides electric utility power to all residences as well as commercial and industrial businesses in the City.

PG&E provides gas service to the project site via a 4-inch and 6-inch main line that extends under Mathew Street. SVP provides electrical service through overhead conduits on Mathew Street.

4.17.1.6 Applicable Plans, Policies, and Regulations

Title 24

In accordance with California Code of Regulations Title 24, Part 6 (Last amended in 2016, effective January 1, 2017), buildings constructed after June 30, 1977, must comply with standards identified in Title 24 of the California Code of Regulations. Title 24 requires the inclusion of state-of-the-art energy conservation features in building design and construction, including the incorporation of specific energy-conserving design features, use of non-depletable energy resources, or a demonstration that buildings would comply with a designated energy budget. Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). Unless otherwise noted in the regulation, all newly constructed buildings in California are subject to the requirements of the CALGreen Code.

General Plan Policies

The Santa Clara General Plan includes numerous policies related to utilities and service systems. With respect to energy and water use, General Plan Policy 5.10.3-P5 states that energy consumption is to be reduced through sustainable construction practices, materials and recycling and General Plan Policy 5.10.3-P6 promotes sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development. In addition, with respect to water use, General Plan Policy 5.10.4-P1 promotes water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Landscaping Ordinance and other applicable City-wide policies and programs. With respect to solid waste, General Plan Policy 5.10.1-P8, which aims to increase to an 80 percent reduction for solid waste tonnage by 2020, or as consistent with the Climate Action Plan.

Santa Clara City Code

According to Santa Clara City Code Section 8.25.285 (referred to as the City's Construction & Demolition Debris Recycling Program), applicants seeking building or demolition permits for projects greater than 5,000 sf are required to recycle at least 50 percent of its discards.

---

[117] CalRecycle. n.d.b. Jurisdiction Diversion/Disposal Rate Summary (2007 – Current). Available: http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx. Accessed: October 14, 2016.

4.17.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
3. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
7. Comply with federal, state and local statutes and regulations related to solid waste?	☐	☐	☒	☐

The water demand, wastewater generation, and energy demand analysis provided below is based on estimates provided by the project engineers.

4.17.2.1 Water Supply

Potable Water

It is anticipated that demolition and construction activities for the project would use recycled water to the extent feasible, and therefore would not result in a substantial increase in demand for potable water. The project engineer estimates that, during operation, indoor uses at the project site would generate a potable water demand of approximately 20.7 million gallons of water per year or 63.7 acre-feet per year. The project would increase water demand on the project site beyond existing conditions and may increase demand beyond the anticipated demand for the site based on the maximum FAR allowable for the project site. However, the project would not substantially increase demand beyond anticipated demand in the City's General Plan. Specifically, the total annual potable water demand of the project (63.7 acre-feet per year) would represent less than 0.4 percent of the citywide potable water demand in 2015 (17,620 acre-feet). Furthermore, the project would comply with all applicable City and State water conservation (indoor and outdoor) measures, including Title 24, Part 6, California Energy Code baseline standard requirements for energy efficiency, based on the 2016 Energy Efficiency Standards requirements, and the 2016 California Green Building Standards Code, commonly referred to as CALGreen. Therefore, the water demand generated by the project would not exceed the capacity of the City's Water and Sewer Utility to provide water services to the project site and adequate potable water supply services are available to serve the project. **(Less Than Significant Impact)**

Recycled Water

Demolition and construction activities for the project would result in a temporary increase in recycled water demand. These activities (e.g., dust control, mixing and placement of concrete, equipment and site cleanup, irrigation for plant and landscaping establishment, and water line testing and flushing) would occur periodically throughout the project's construction period. Recycled water demand during construction would be minimal and temporary. Therefore, adequate recycled water supply services are available to serve the project during demolition and construction. During operation, the project would use recycled water for irrigation and in the cooling towers, which can be accommodated by the existing recycled water system serving the site and would represent a beneficial environmental impact by reducing the project's demand for potable water. The project engineer estimates that the cooling towers would generate a recycled water demand of 143.3 million gallons of water per year or 439.8 acre-feet per year. The project would not substantially increase demand beyond anticipated demand in the City's General Plan. Specifically, the total annual recycled water demand of the project (439.8 acre-feet per year) would represent approximately 12.5 percent of the citywide recycled water demand in 2015 (3,529 acre-feet). Therefore, the water demand generated by the project would not exceed the capacity of the City's Water and Sewer Utility to provide water services to the project site and adequate recycled water supply services are available to serve the project. **(Less Than Significant Impact)**

4.17.2.2 Wastewater

The project's wastewater flow would be treated by the Regional Wastewater Facility, which is monitored by the San Francisco Bay RWQCB to ensure compliance the facility's NPDES wastewater discharge permit. The Regional Wastewater Facility is permitted to treat the industrial and sanitary waste flows that would be generated by the project. Further, as discussed below, the Regional Wastewater Facility has capacity to accommodate the project's estimated wastewater flow. Therefore, the project would not exceed wastewater treatment requirements of the San Francisco Bay RWQCB. **(No Impact)**

Demolition and construction activities for the project would result in a temporary increase in wastewater generation as a result of on-site construction workers. Wastewater generation would occur periodically throughout the project's construction period. However, this increase would be temporary and nominal. In addition, construction workers typically utilize portable toilets, which would not contribute to flows to the City's wastewater conveyance system. Therefore, demolition and construction activities for the project would result in a minimal increase in wastewater generation and would not be anticipated to have a substantial adverse impact on available wastewater treatment or conveyance capacity. **(Less Than Significant Impact)**

As previously stated, the Regional Wastewater Facility treats an average of 110 mgd, which is 57 mgd (or 35 percent) under its 167-mgd treatment capacity. Currently, the Regional Wastewater Facility is operating under a 120 mgd dry weather effluent flow constraint. For the purposes of the Sanitary Sewer Capacity Evaluation, it is conservatively assumed that all of the project's water demand would result in wastewater.[118] As a result, the project would generate approximately 164 million gallons per year (or an average of 449,315 gpd) of wastewater under worst possible conditions. According to the project engineers, the actual project design maximum is approximately 190,000 gpd of wastewater. Effluent flows from the Regional Wastewater Facility would be reduced to the extent that the project would comply with mandatory water conservation (indoor and outdoor) measures, which would also serve to reduce the wastewater generated by the project, set forth in CALGreen. With implementation of the project, the Regional Wastewater Facility would still operate below the required 120 mgd constraint and would not increase the need for wastewater treatment beyond the capacity of the Regional Wastewater Facility of the City of Santa Clara's allocation at the Regional Wastewater Facility. Therefore, the Regional Wastewater Facility has the ability to treat wastewater generated by the project.

The project would increase flows to the wastewater conveyance infrastructure that serves the project site. According to the Sanitary Sewer Capacity Evaluation prepared for the project, there is adequate capacity in the wastewater conveyance system for the flows that would be generated by the project and no improvements would be needed.[119] **(Less Than Significant Impact)**

4.17.2.3 Storm Drainage Impacts

As discussed in Section 4.9, *Hydrology and Water Quality*, implementation of the project would result in an approximately 21 percent decline in impervious surfaces at the project site. Stormwater on site would drain into biotreatment areas located within the project site. The biotreatment areas would treat the stormwater before draining into the City of Santa Clara stormwater system. On-site drainage facilities would be designed to meet City of Santa Clara standards and would drain to the existing storm drain system. Therefore, runoff from the project site would not exceed the capacity of the City's storm water drainage system. **(Less Than Significant Impact)**

4.17.2.4 Solid Waste Impacts

Demolition and construction activities for the project would result in a temporary increase in solid waste generation. Solid waste generation would occur periodically throughout the project's construction period. However, this increase would be temporary and nominal. In addition, 50 percent of the construction and demolition materials would be required to be recycled in conformance with the City of Santa Clara's Construction and Demolition Program. Furthermore, the applicant has expressed a preference to use a construction contractor that has consistently achieved diversion rates that exceed the minimum requirement of 50 percent. Therefore, demolition and construction activities for the project would not result in a significant increase in solid waste and recyclable materials generated within the City and would not require that new landfill facilities be contracted with or constructed to serve the project. **(Less Than Significant Impact)**

Operation of the project would generate approximately 140 pounds of solid waste per day.[120] This increase represents 0.002 percent of the maximum daily intake allowed at the Newby Island Landfill

---

[118] RMC Water and Environment. 2017. *Sanitary Sewer Capacity Evaluation for the McLaren Data Center Development at 651, 725-795, and 825 Mathew Street (APN: 224-40-001, 224-40-002, and 224-40-011).* January 20. See Appendix I of this Initial Study.

[119] RMC Water and Environment. 2017. *Sanitary Sewer Capacity Evaluation for the McLaren Data Center Development at 651, 725-795, and 825 Mathew Street (APN: 224-40-001, 224-40-002, and 224-40-011).* January 20. See Appendix I of this Initial Study.

[120] CalRecycle. n.d.c. Estimated Solid Waste Generation Rates for Commercial Establishments. Available: http://www.calrecycle.ca.gov/wastechar/wastegenrates/Commercial.htm. Accessed: October 16, 2016. Solid waste generation was estimated for the project at a rate of six pounds per 1,000 square feet per day for office

(3,260 tons). As previously discussed, the City has an arrangement with the owners of the Newby Island Landfill to provide disposal capacity for the City through 2024, as well as other landfills located outside of the County, according to the City's General Plan. Newby Island Landfill is currently in the process of seeking authorization from San José to expand the permitted capacity and accept an additional 15.12 million cy and extend its closure date to 2041.[121] If the landfill is not available to accept waste, the City will prepare a contract with another landfill, such as Guadalupe Mines in San José, which is anticipated to close in 2048. In addition, the City is currently exceeding its waste diversion goal of 50 percent. In accordance with the CALGreen Code (Section 5.410.1), the project would provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling. The project would contribute to and would not preclude the City's achievement of the City's goal to increase the Citywide diversion rate to 80 percent. Increased recycling within the City would extend the useful life of the landfill. Therefore, the project would not result in a significant increase in solid waste and recyclable materials generated within the City and would not require that new landfill facilities be contracted with or constructed to serve the project. **(Less Than Significant Impact)**

4.17.2.5 Natural Gas and Electricity

Natural Gas

Natural gas is not typically used during construction. Therefore, construction of the project would not require the construction of any additional natural gas service facilities by PG&E. **(Less Than Significant Impact)**

PG&E owns natural gas distribution facilities within the City. Natural gas service to the project site would be provided to meet the needs of the project as required by California Public Utilities Commission, which obligates PG&E to provide service to its existing and potential customers. The project would be served by existing natural gas infrastructure. Therefore, operation of the project would increase natural gas use, but would not require the construction of any additional natural gas service facilities by PG&E. **(Less Than Significant Impact)**

Electricity

SVP provides electric utility power to all residences as well as commercial and industrial businesses in the City. Electric service to the project site would be provided to meet the needs of the project as required by California Public Utilities Commission, which obligates SVP to provide service to its existing and potential customers. Demolition and construction activities for the project would result in a temporary increase in demand for electricity. Electricity demand would occur periodically throughout the project's construction period. However, this increase would be temporary and nominal. Therefore, demolition and construction activities for the project would increase electricity use, but would not require the construction of any additional electricity service facilities by SVP. **(Less Than Significant Impact)**

---

space based on a source from April 1992. There would be approximately 11,660 square feet of office space in each building, for a total of 23,320 square feet of office space.

[121] Bauer, Ian. 2016. *San Jose To Study Odors From Newby Island Landfill Before Considering Any Expansion.* Available: http://www.mercurynews.com/milpitas/ci_29385378/san-jose-study-odors-from-newby-islandlandfill. Accessed: October 16, 2016.

On an annual basis, the project would consume 665,760 MWh per year at full buildout.[122] To provide the electricity that would be consumed by the project, SVP is planning to restructure the electrical loop that serves the project site (the Southern Loop), and expects this project to be completed in 2020. SVP has confirmed that upon completion of SVP's electrical loop restructuring and the onsite substation proposed as part of the project, it can serve the project's anticipated electricity demand.[123] Therefore, impacts related to electricity service would be less than significant. Additional discussion of the project's energy demand is provided in Section 4.18, *Mandatory Findings of Significance*. **(Less Than Significant Impact)**

4.17.3 Conclusion

The project would have a less-than-significant impact on water, wastewater, stormwater, solid waste, and natural gas and electricity. **(Less Than Significant Impact with Mitigation)**

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
1. Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
2. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
3. Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

[122] Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050*. November.

[123] Silicon Valley Power. 2016. Letter addressed to Justin Thomas regarding 725 and 651 Mathew Street, Santa Clara, CA. November 3. See Appendix H of this Initial Study.

4.18.1 Findings

The project would result in no impacts to agricultural and forest resources and mineral resources. The project would result in less-than significant impacts to aesthetics, GHG, land use, population and housing, public services, recreation, transportation, and utilities and service systems.

With the implementation of the proposed mitigation measures described in air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and noise sections of this document (refer to *Section 4, Environmental Setting, Checklist, and Discussion of Impacts*), the project would not result in significant environmental impacts.

4.18.2 Cumulative Impacts

A number of projects have been recently approved or are reasonably foreseeable in the City of Santa Clara. These include the development or redevelopment of residential, industrial, and commercial uses.[124] While these individual projects may result in significant impacts in particular issue areas, it is assumed that the projects will comply with existing regulations and statutes, and will incorporate mitigation measures to reduce potential impacts to a less-than-significant level, if necessary. For example, all projects are required to incorporate best management practices and comply with local and regional regulations to reduce impacts to water quality to the maximum extent feasible.

4.18.2.1 Construction Impacts

With mitigation, the project would also result in less than significant impacts from the effects of project construction on air quality, noise, transportation, and water quality. The construction of the anticipated or pending projects in the area would result in short-term impacts at various locations throughout the area. The majority of the cumulative project sites, however, are scattered throughout the City, their construction schedules are different, and their construction is likely to occur over the next several years. Two notable projects in the city are projects proposed by the project applicant: the 2880 Northwestern Parkway (Building V5) Data Center Project and 2895 Northwestern Parkway (Building V6) Data Center Project, both located approximately 1.5 miles northwest of the project site. The Building V5 Project proposes to demolish an existing surface parking lot and construct a four-story, 109,000-sf data center building, expand an existing electrical substation, and construct a paved surface parking lot. In total, construction would be expected to take approximately 15 months and may overlap with construction of the project. The Building V6 Project proposes to demolish an existing single-story, vacant commercial building and adjacent surface parking lot and construct a two-story, approximately 69,000-sf data center and surface parking lot. In total, construction would be expected to take approximately 9 months and may overlap with construction of the project. The project applicant would coordinate construction activities accordingly to avoid overlap of high disturbance activities. Further, as noted above, all three sites are located in a commercial/light industrial area, and there are no sensitive receptors in the vicinity of any sites. In addition, related projects, including the Building V5 and Building V6 Projects, would generally be required to implement standard measures and controls to further reduce construction impacts. Given

---

[124] City of Santa Clara. No date. Development Projects Story Map: Where what’s possible becomes reality. Available: <http://missioncity.maps.arcgis.com/apps/MapTour/index.html?appid=5afdbed13fad458cb6288c46a0bad060#> . Accessed: December 1, 2016.

these factors, the construction impacts associated with the pending projects would not result in a significant cumulative impact.

4.18.2.2 Energy Impacts

Data centers are, by nature, large consumers of electricity. As stated in Section 4.17, *Utilities and Service Systems*, the project would consume an estimated 665,760 MWh per year at full buildout. While this would represent a substantial increase in consumption from existing conditions, the project's energy usage would not be wasteful, inefficient, or unnecessary. With today's rapid advances in information technology, there is an immense and growing need for data storage. Thus, the project's energy usage would fuel a necessary service. The project would incorporate numerous efficiency measures to avoid the wasteful use of energy, including energy star appliances, energy use meters, outside air economizers, and LED lighting. Further, electricity for the project would be provided by SVP, which has an energy portfolio that is largely comprised of renewable sources. Santa Clara currently has ownership interest, or has purchase agreements for 1,079.15 MW of electricity.[125] This capacity far exceeds City of Santa Clara's current peak electricity demand of approximately 522 MW. No new generation peak capacity is necessary to meet the capacity requirements of new construction, or redeveloped facilities within the City to meet the near or projected future demand.

4.18.2.3 Air Quality and Greenhouse Gas Emission Impacts

Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. As discussed in Section 4.3, *Air Quality*, the total increase in average daily emissions of criteria pollutants from operation of the project and cumulative air toxics health hazards at the closest sensitive receptor are estimated to be below the significance thresholds used by the City of Santa Clara in this Initial Study. Therefore, the project would not result in a cumulative air quality impact.

Similar to regulated air pollutants, GHG emissions and global climate change also represent cumulative impacts. The project's contribution to global climate change is discussed in Section 4.7, *Greenhouse Gas Emissions*, in terms of the project's GHG emissions. With implementation of the efficiency measures included in the project in combination with the green power mix utilized by SVP, the project would comply with the City's CAP, and would not conflict with plans, policies or regulation adopted for the purpose of reducing the emissions of GHGs.

4.18.3 Short-term Environmental Goals vs. Long-term Environmental Goals

The project involves redevelopment of an urban site and would not result in the conversion of a greenfield site to urban uses or otherwise commit resources in a wasteful or inefficient manner. The energy efficiency of servers within the proposed datacenter could be improved as new technology becomes available while the building shell remains the same. The project would not induce substantial job or population growth or result in a large or irretrievable commitment of resources.

---

[125] Silicon Valley Power, City of Santa Clara. *The Silicon Valley Power Resources Map*. Available: <http://www.siliconvalleypower.com/home/showdocument?id=5763>. Accessed: December 1, 2016.

4.18.4 Direct or Indirect Adverse Effects on Human Beings

As noted previously, the project could result in hazardous materials impacts during construction that could have health effects on people. With the implementation of the proposed mitigation measures described in Section 4.8, *Hazards and Hazardous Materials*, which would reduce possible hazardous materials impacts from contaminated soil and/or groundwater, the project would not result in substantial adverse effects on human beings, individually or cumulatively.

4.18.5 Conclusion

The project would not degrade the quality of the environment, reduce habitat for plant or animal species, or eliminate examples of periods of California history. The project would not make a cumulatively considerable contribution towards a significant cumulative impact, achieve short-term goals to the disadvantage of long-term goals, or cause adverse effects on human beings. **(Less Than Significant Impact with Mitigation)**

SECTION 5.0 REFERENCES

Altamont Corridor Express (ACE). Schedule. Available: http://www.acerail.com/Getting-You-There/Timetable-and-Fare-Chart/train-schedule. Accessed: October 10, 2016.

Andrew Hyatt, Fire Prevention Specialist, City of Santa Clara Fire Department. Fire Prevention and Hazardous Materials Division. Email communication on August 15, 2016.

Arborwell. *Tree Assessment for 651, 725-825 Mathew Street, Santa Clara, CA*. September 19.

Association of Bay Area Governments (ABAG). *Projections 2013*. December 2013.

Bauer, Ian. 2016. *San Jose To Study Odors From Newby Island Landfill Before Considering Any Expansion*. Available: http://www.mercurynews.com/milpitas/ci_29385378/san-jose-study-odors-from-newby-islandlandfill. Accessed: October 16, 2016.

CAC Architects. 2016. *McLaren Project Design Drawings, Planning Submittal*. September 30.

California Air Resources Board. 2006. Final Regulation Order – Requirements to Reduce Idling Emissions from New and In-Use Trucks, Beginning in 2008. November 15. Available: http://www.arb.ca.gov/regact/hdvidle/hdvidle.htm. Accessed: June 30, 2016.

California Department of Conservation. 1996. *Revised Mineral Land Classification Map. Aggregate Resources Only. South San Francisco Bay Production-Consumption Region. Mountain View Quadrangle. Open-File Report 96-03*. Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_96-03/OFR_96-03_Plate5.pdf. Accessed: September 27, 2016.

California Department of Conservation. 2016. AB 3098 List. Available: http://www.consrv.ca.gov/omr/SMARA%20Mines/ab_3098_list/Pages/Index.aspx. Accessed: September 27, 2016.

California Department of Conservation. 2014. *Santa Clara County Important Farmland 2012*. August. Available: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/scl12.pdf. Accessed: September 27, 2016.

California Department of Forestry and Fire Protection. 2008. *Santa Clara County Very High Fire Hazard Severity Zones in Local Responsibility Area.* Available: <http://frap.fire.ca.gov/webdata/maps/santa_clara/fhszl_map.43.pdf>. Accessed September 26, 2016.

California Department of Transportation. 2013a. *Technical Noise Supplement to the Traffic Noise Analysis Protocol.* September. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf.Accessed: October 26, 2016.

California Department of Transportation. 2013b. *Transportation and Construction Vibration Guidance Manual.* Available: http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf. Accessed: October 26, 2016.

California Emergency Management Agency, California Geological Survey, and University of Southern California. 2009. *Tsunami Inundation Map for Emergency Planning, State of California, County of Santa Clara, Milpitas Quadrangle.* July. Available:

http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SantaClara/Documents/Tsunami_Inundation_Milpitas_Quad_SantaClara.pdf. Accessed: September 27, 2016.

California Government Code Sections 14522.1, 14522.2, 65080, 65080, 65080.01, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588, and Public Resources Code Sections 2161.3, 21155, 21159.28.

California Resources Agency. CEQA Guidelines, Section 15064.5(a)(3). As amended October 23, 2009.

CalRecycle. n.d.c. Estimated Solid Waste Generation Rates for Commercial Establishments. Available: http://www.calrecycle.ca.gov/wastechar/wastegenrates/Commercial.htm. Accessed: October 16, 2016.

CalRecycle. n.d.a. Facility/Site Summary Details: Newby Island Sanitary Landfill (43-AN-0003). Available: http://www.calrecycle.ca.gov/SWFacilities/Directory/43-AN-0003/Detail/. Accessed: October 14, 2016.

CalRecycle. n.d.b. Jurisdiction Diversion/Disposal Rate Summary (2007 – Current). Available: http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx. Accessed: October 14, 2016.

Caltrain. 2016. *Printer-Friendly Caltrain Schedule*. Effective April 4, 2016. Available: <http://www.caltrain.com/Assets/Assets/Schedules/Weekday+Southbound+Printer-Friendly+Schedule+04042016.pdf >. Accessed: September 30, 2016.

Caltrans. 2016. California Scenic Highway Program - Scenic Highway Routes. Available: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed: September 30, 2016.

City of San José Environmental Services. About Us. Available at: http://www.sanjoseca.gov/index.aspx?NID=4544. Accessed: October 14, 2016.

City of San José Environmental Services. San José/Santa Clara Water Pollution Control Plant. Available at: http://www.sanjoseca.gov/index.aspx?NID=1663. Accessed: October 14, 2016.

City of San José. 2014. Planning Commission Staff Report: PD14-014. Available: http://www.sanjoseca.gov/DocumentCenter/View/38008. December 10. Accessed: October 14, 2016.

City of Santa Clara. 2014. *City of Santa Clara 2010-2035 General Plan*. Updated December 9. Available: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan. Accessed: September 27 and 29, 2016.

City of Santa Clara. 2015. Commercial Garbage & Recycling. Available: http://santaclaraca.gov/index.aspx?page=2687. Accessed: October 14, 2016.

City of Santa Clara General Plan. 2014. *General Plan – Appendix 8.9: Historic Preservation and Resource Inventory*. Updated December 9. Available: http://santaclaraca.gov/home/showdocument?id=12893. Accessed: September 29, 2016.

City of Santa Clara. 2014. *General Plan Land Use Diagrams: Phase I: 2010–2014, Phase II: 2015–2023, and Phase III: 2023–2035*. Updated December 9. Available:

http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan. Accessed October 31, 2016.

City of Santa Clara. 2014. *General Plan Land Use Diagram Phase II: 2015-2023 and General Plan Land Use Diagram Phase III: 2023-2035.* Updated December 9. Available: http://santaclaraca.gov/home/showdocument?id=4499. Accessed: September 27, 2016.

City of Santa Clara. 2011. *Integrated Final Environmental Impact Report, City of Santa Clara Draft 2010-2035 General Plan.* January. Available: http://santaclaraca.gov/home/showdocument?id=12900. Accessed: October 6, 2016.

City of Santa Clara. 2010. Resolution No. 10-7737. Available: http://santaclaraca.gov/modules/showdocument.aspx?documentid=2744. Accessed: October 14, 2016.

City of Santa Clara. 2016. Santa Clara City Library – About the Library. Available: http://santaclaraca.gov/government/departments/library/about-the-library. Accessed: September 28, 2016.

City of Santa Clara. 2016. Santa Clara Police Department – About Us. Available: http://santaclaraca.gov/government/departments/police-department/about-us. Accessed: September 28, 2016.

City of Santa Clara. 2016. Santa Clara Police Department – Northside Substation. Available: http://santaclaraca.gov/government/departments/police-department/community/northside-substation. Accessed: September 28, 2016.

City of Santa Clara. 2016. *2015 Urban Water Management Plan*. Adopted November 22. Available: http://santaclaraca.gov/home/showdocument?id=48088. Accessed: December 13, 2016.

County of Santa Clara. 2016. Williamson Act Properties. Last edited on March 16. Available: https://www.arcgis.com/home/webmap/viewer.html?webmap=328429a3701a444485f31982cbdd9c71&extent=-122.5019,36.6904,-120.9103,37.6838. Accessed: September 27, 2016.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 26, 2016.

Kier & Wright Civil Engineers & Surveyors, Inc., 2016. *Vantage Data Center Due Diligence Report*. July 20, 2016.

Kimley-Horn. 2016. *Santa Clara Vantage Data Center Traffic Evaluation*. September 29, 2016.

Maguire, K.C. and Holroyd, P.A. 2016. Pleistocene vertebrates of Silicon Valley (Santa Clara County, California). *PaleoBios* 33(0). Available: http://escholarship.org/uc/item/3k43832x. Accessed: October 28, 2016.

Metropolitan Transportation Commission. 2013. *Plan Bay Area: Strategy for a Sustainable Region.* Metropolitan Transportation Agency and Association of Bay Area Governments. Adopted: July 18, 2013. Available: <http://files.mtc.ca.gov/pdf/Plan_Bay_Area_FINAL/Plan_Bay_Area.pdf>. Accessed: June 20, 2016.

Murray Engineers. 2016. *Geotechnical Investigation, Vantage Data Centers, 651, 725, 825, Mathew Street, Santa Clara, California, 95050*. November.

Planning Submittal for the McLaren Project, dated September 16, 2016.

Ramboll Environ US Corporation. 2016. *Air Quality and Greenhouse Gas Technical Report, Vantage Data Centers, 651, 725, 825 Mathew Street, Santa Clara, California, 95050*. November.

RMC Water and Environment. 2017. *Sanitary Sewer Capacity Evaluation for the McLaren Data Center Development at 651, 725-795, and 825 Mathew Street (APN: 224-40-001, 224-40-002, and 224-40-011)*. January 20. See Appendix I of this Initial Study.

Rosendin Electric. 2016. Letter to Nick Steketee. September 14.

San José-Santa Clara Regional Wastewater Facility. 2015. *2015 Annual Self-Monitoring Report. Reporting Period January 1- December 31, 2015.* Available at: http://www.sanjoseca.gov/ArchiveCenter/ViewFile/Item/2797. Accessed: October 14, 2016.

Santa Clara County Airport Land Use Commission. 2011. *Norman Y. Mineta San Jose International Airport Comprehensive Land Use Plan.* Available: < https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf >. Accessed: September 26, 2016.

Santa Clara Unified School District. 2016. Fast Facts. Available: http://www.santaclarausd.org/overview.cfm?subpage=122626. Accessed: September 28, 2016.

Santa Clara Unified School District. 2016. SchoolFinder – 2015 -16 School Year Boundary Lookup. Available: http://www.schfinder.com/SantaClaraUSD/Lookup.aspx?DistrictID=0635430. Accessed: September 28, 2016.

Santa Clara Valley Transportation Authority. *Bus & Rail Map (Effective January 4, 2016).* Available: http://www.vta.org/getting-around/maps/bus-rail-map. Accessed: October 2, 2016.

Santa Clara Valley Urban Runoff Pollution Prevention Program. 2010. *HMP Applicability Map City of Santa Clara.* November. Available: < http://www.scvurppp-w2k.com/HMP_app_maps/Santa_Clara_HMP_Map.pdf>. Accessed: September 30, 2016.

Santa Clara Valley Water District. 1995. *Inundation Map of Lexington Dam, San Jose West Quadrangle.* March. Available: http://www.valleywater.org/uploadedFiles/Services/CleanReliableWater/WhereDoesYourWaterComeFrom/Reservoirs/Lexington/Lenihan%20Dam%201995%20FIM%20Sheet%202%20of%204.pdf?n=8335. Accessed: December 1, 2016.

Santa Clara Valley Water District. 2012. *Groundwater Management Plan.* Available: http://www.valleywater.org/Services/Clean_Reliable_Water/Where_Does_Your_Water_Come_From/Groundwater/Groundwater_Management/2012_Groundwater_Management_Plan.aspx. Accessed: September 27, 2016.

Schematic Landscape Plan, Planning Submittal for the McLaren Project, September 30, 2016.

Silicon Valley Power. 2016. Letter addressed to Justin Thomas regarding 725 and 651 Mathew Street, Santa Clara, CA. November 3.

Silicon Valley Power, City of Santa Clara. *The Silicon Valley Power Resources Map.* Available: <http://www.siliconvalleypower.com/home/showdocument?id=5763>. Accessed: August 11, 2016.

Society of Vertebrate Paleontology. 2010. *Standard Guidelines.*

State of California Department of Finance. *E-1 Population Estimates for Cities, Counties, and the State—January 1, 2015 and 2016.* May 2016. Available: http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php. Accessed: September 27, 2016.

State Water Resources Control Board. n.d. Total Maximum Daily Load Program. Available: <http://www.swrcb.ca.gov/water_issues/programs/tmdl/303d_lists2006_approved.shtml>. Accessed: September 30, 2016.

State Water Resources Control Board. 2010. Impaired Water Bodies: California 303(d) Listed Waters. Available: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml. Accessed: July 29, 2016. Note that San Tomas Aquino Creek is referred to as San Tomas Aquinas Creek in the California 303(d) list.

TRC. 2016. *Phase I Environmental Site Assessment, 651, 725, and 825 Mathew Street, Santa Clara, California.* July 22.

Uptime Institute. 2014. 2014 Data Center Industry Survey. Available: <https://journal.uptimeinstitute.com/2014-data-center-industry-survey/>.

SECTION 6.0 AUTHORS AND CONSULTANTS

<u>**Lead Agency**</u>

City of Santa Clara
Andrew Crabtree, Director of Community Development
Gloria Sciara, Development Review Officer
Yen Han Shen, Associate Planner
Alexander Abbe, Assistant City Attorney

<u>**Consultants**</u>

ICF Jones & Stokes, Inc.
Environmental Consultants and Planners
Heidi Mekkelson, Project Director
Jessica Viramontes, Project Manager
Anne Winslow, Environmental Planner
Lawrence Truong, Environmental Planner
Diana Roberts, Environmental Planner
Shannon Hatcher, Air Quality Specialist
Laura Yoon, Air Quality Specialist
Seth Hartley, Air Quality Specialist
Eric Christensen, Biologist
Gretchen Hilyard, Architectural Historian
Aisha Fike, Architectural Historian
David Buehler, Noise Specialist
Liz Scott, Noise Specialist
Alan Barnard, Graphics
James Harmon, Publication Specialist

Ramboll Environ US Corporation
Preparer of the Air Quality and Greenhouse Gas Technical Report
Shari Libicki
Catherine Mukai

Kimley-Horn
Preparer of the Traffic Evaluation
Mike Mowery, P.E.

Memorandum

To: John Noori
NTerra Group
1155 N. First Street, Suite 214
San Jose, California 95112

From: Sam Oakley
Certified Arborist WE-9474A
Consulting Arborist #556
925.518.2028
samoakley@arborwell.com

Subject: Tree Assessment for 651, 725-825 Mathew Street, Santa Clara, CA

Date: September 19, 2016

Introduction

Arborwell was asked to prepare a *Tree Assessment* for the property of 651 & 725-825 Mathew Street in Santa Clara, California. The property was inspected on September 14, 2016. No trees were observed on the 651 Mathew Street property. Although several tree species were discovered along the east-side of the 725-825 Mathew Street property, they were volunteer plants and were in shrub-like form. Description of the species within the shrubs are described below (see Exhibit 1.1 for the respective locations):

1 *Phoenix canariensis* (Canary Island Date Palm)
2 *Persea americana* (Mexican Avocado)
3 *Ailanthus altissima* (Tree-Of-Heaven)
4 *Albizia julibrissin* (Silk Tree)

Visual inspections of the aboveground parts of the shrubs were performed. No aerial inspection was performed. Images and notes of the health and structural condition of individuals group of shrubs were acquired.

The individuals will need to be removed based on poor structural condition. Overall, they are in moderate health, but highly invasive, and exhibit very poor structure. The entire group of shrubs along the east-side of the property should be removed as it is also fostering an encampment for vagrants.

Structure

Although the group of shrubs have individuals that are typically considered trees is most situations, I determined that they are not I this case. This is a because a tree is generally defined as a woody plant having one erect perennial stem (trunk) at least three inches in diameter at a point 4-1/2 feet above the ground, a definitely formed crown of foliage, and a mature height of at least 13 feet. Shrubbery, on the other hand, are woody plants with several perennial stems that may be erect or may lay close to the ground. It will usually have a height less than 13 feet and stems no more than about three inches in diameter. The individuals listed above on the property consist of numerous, poorly structured trunks that have sprouted in a volunteer fashion, close to the ground, and most likely from animal guano.

Species Invasiveness

None of the individuals in the vegetation grouping are native to California. Both the Canary Island Date Palm and Tree-Of Heaven are classified by the California Invasive Plant Council as invasive. Across California, invasive plants damage wildlands, displace native plants and wildlife, increase wildfire and flood danger, consume valuable water, degrade recreational opportunities, and destroy productive range and timber lands. The California Invasive Plant Council urges California stakeholders to protect the state's environment and economy from invasive plants.

Conclusion

The vegetative grouping listed above are non-native, volunteer, in shrub-like form, outside the public right-of-way, and are not protected. Both Tree-Of-Heaven and the Canary Island Date Palm are highly invasive and should be removed immediately. I recommend removing all of the vegetation along the east-side of the 725-825 Mathew street property for the above reasons, and because it is fostering encampment that possess public health issues.

Exhibit 1.1

The location of the volunteer shrubs at 725-825 Mathew Street, location marked by a red circle.

Exhibit 1.2

An image looking north of the volunteer Canary Island Date Palm on the 725-825 Mathew Street property with a homeless encampment built around it. The shrub grouping extends behind the volunteer palm, shown in the following images.

Exhibit 1.3

An image of the volunteer Silk Tree (yellow arrow), Tree-Of-Heaven (green arrow), and Avocado (red arrow) with a homeless encampment built around it.

Exhibit 1.4

An image looking north from the homeless encampment along the east-side of the 725-825 Mathew Property.

Prepared for
Vantage Data Centers
Santa Clara, California

Prepared by
Ramboll Environ US Corporation
San Francisco, California

Project Number
03-41184A

Date
November 2016

AIR QUALITY AND GREENHOUSE GAS TECHNICAL REPORT

VANTAGE DATA CENTERS
SANTA CLARA, CALIFORNIA

RAMBOLL ENVIRON

CONTENTS

EXECUTIVE SUMMARY		**1**
1.	**INTRODUCTION**	**1**
1.1	Project Description	1
1.2	Objective and Methodology	1
1.3	Thresholds Evaluated	1
1.4	Report Organization	3
2.	**EMISSION ESTIMATES**	**5**
2.1	Calculation Methodologies for Construction Emissions	5
2.1.1	Emissions from Off-road Equipment	5
2.1.2	Emissions from On-road Vehicles	5
2.1.3	Emissions from Architectural Coating and Asphalt Paving	6
2.1.4	Summarized Construction Emissions:	6
2.2	Calculation Methodologies for Operational Emissions	6
2.2.1	Stationary Sources	6
2.2.2	Land Use Sources	7
2.2.3	Summary of Project Operational Criteria Pollutant Emissions	7
2.2.4	Summary of Project Operational GHG Emissions	8
2.3	Calculation Methodologies for Simultaneous Construction and Operational Emissions	9
3.	**ESTIMATED AIR CONCENTRATIONS**	**10**
3.1	Chemical Selection	10
3.2	Sources of Emissions	10
3.3	Air Dispersion Modeling	11
4.	**RISK CHARACTERIZATION METHODS**	**14**
4.1	Project Sources Evaluated	14
4.2	Exposure Assessment	14
4.3	Toxicity Assessment	15
4.4	Age Sensitivity Factors	15
4.5	Risk Characterization	15
4.5.1	Estimation of Cancer Risks	15
4.5.2	Estimation of Chronic and Acute Noncancer Hazard Quotients/Indices	16
5.	**PROJECT HEALTH RISK ASSESSMENT**	**18**
5.1	Construction HRA	18
5.2	Operational HRA	18
5.3	Cumulative HRA	19
6.	**REFERENCES**	**21**

TABLES

Table ES-1: Summary of Project Construction and Operational Emissions
Table ES-2: Summary of Project Construction and Operational Health Impacts at the Maximally Exposed Individual Sensitive Receptor (MEISR)
Table 1: CalEEMod® Project Characteristics
Table 2: CalEEMod® Land-use Inputs
Table 3: CalEEMod® Construction Phasing Inputs
Table 4: CalEEMod® Construction Equipment List
Table 5: CalEEMod® Material Exported and Demolition Inputs
Table 6: CalEEMod® Construction Trip Generation Rates
Table 7: Construction Emissions
Table 8: Engine Emission Factors
Table 9: Controlled Engine Emissions, Daily
Table 10: Controlled Engine Emissions, Annual
Table 11: Title 24 Adjustments to Energy Use Rates
Table 12: Energy Usage for Project Operations
Table 13: Energy Use Emissions, Project Operational
Table 14: eGRID GHG Emission Factors
Table 15: Operational Mass Emissions of Criteria Air Pollutants
Table 16: Operational Mass Emissions of Greenhouse Gases
Table 17: Year-By-Year Emissions During Simultaneous Construction and Operation
Table 18: Modeling Parameters
Table 19: Exposure Parameters, 2015 OEHHA Methodology
Table 20: Speciation Values
Table 21: Toxicity Values
Table 22: Age Sensitivity Factors
Table 23: Carbon Monoxide Analysis
Table 24: Concentrations at the Construction and Operational MEISRs
Table 25: Construction Health Risk Impacts to the MEISR
Table 26: Project-related Operational Health Risk Impacts to the MEISR
Table 27: Summary of Cumulative Health Risk Impacts to the MEISR

FIGURES

Figure 1: Project Boundary
Figure 2: Construction Sources
Figure 3: Generator Locations
Figure 4: Receptor Grid

APPENDICES

Appendix A: CalEEMod® Construction and Operational Emissions Outputs
Appendix B: BAAQMD Stationary Source Inquiry Form

ACRONYMS AND ABBREVIATIONS

AERMOD	American Meteorological Society/Environmental Protection Agency regulatory air dispersion model
AQ	Air Quality
ARB	California Air Resources Board
aREL	Acute Reference Exposure Level
ASF	Age Sensitivity Factor
BAAQMD	Bay Area Air Quality Management District
CalEEMod®	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CAP	Criteria Air Pollutant
CEQA	California Environmental Quality Act
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide equivalent
CPF	Cancer Potency Factor
cREL	Chronic Reference Exposure Level
DPF	Diesel Particulate Filter
DPM	Diesel Particulate Matter
GHG	Greenhouse Gas
HHDT	Heavy Heavy Duty Trucks
HI	Hazard Index
HQ	Hazard Quotient
HRA	Health Risk Assessment
MAF	Modelling Adjustment Factor
MEISR	Maximally Exposed Individual Sensitive Receptor
N_2O	Nitrogen Dioxide
NOx	Nitrous Oxide
OEHHA	Office of Environmental Health Hazard Assessment
$PM_{2.5}$	Fine Particulate Matter Less than 2.5 Micrometers in Aerodynamic Diameter
PM_{10}	Respirable Particulate Matter Less than 10 Micrometers in Aerodynamic Diameter

ppm	part per million
REL	Reference Exposure Level
ROG	Reactive Organic Gas
RPS	Renewables Portfolio Standard
SP	Service Population
TAC	Toxic Air Contaminant
TOG	Total Organic Gas
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile Organic Compound

Units

g	Gram
kg	Kilogram
m	Meter
MT	Metric Ton
MW	Megawatts
MWh	Megawatts Hour
µg	Microgram
µg/m^3	Micrograms per cubic meter
m^3/kg-day	Milligrams per kilogram per day
m^3	Cubic meters
mg	Milligram
s	Second
tpy	Ton per Year
yr	Year

EXECUTIVE SUMMARY

Vantage Data Centers' Mathew Street development ("the Project") is a proposed new data center in Santa Clara, California. The Project would be located on a 8.97-acre plot bounded by existing occupied buildings to the West, rail tracks to the East, a Home Depot location to the North and Mathew Street to the South. The proposed plan for the Project includes thirty-two (32) 3-megawatts (MW) emergency generators to provide back-up power for the data center which may draw up to 54 MW critical and 76 MW total of power from the grid. The construction of the Project will take place in four phases from 2017 to 2022. The Project includes the demolition of the 148,656 square feet of structures currently on the site and the construction of approximately 413,000 square feet of data center uses and a 36,200- square foot substation. This report evaluates the air quality (AQ) and greenhouse gas (GHG) impacts, together with risks and hazards associated with Project construction and operational activities.

At the request of Vantage Data Centers, Ramboll Environ US Corporation (Ramboll Environ) conducted a California Environmental Quality Act (CEQA) analysis of criteria air pollutants (CAPs) and precursor emissions associated with the proposed construction and operation of the Project. Ramboll Environ also estimated GHG emissions from construction and operation of the Project. In addition to the emissions analyses, Ramboll Environ performed a health risk assessment (HRA) of Project construction and operation of a data center. The local air agency, the Bay Area Air Quality Management District (BAAQMD) has published CEQA Guidelines for use in determining significance, which will apply here for AQ and GHG (BAAQMD 2011).[1] As shown in **Table ES-1**, the relevant thresholds for the Project are:

- Construction CAP and precursor emissions
- Operational CAP and precursor emissions
- Local carbon monoxide (CO) concentrations
- Operational GHG emissions
- Excess lifetime cancer risk, chronic hazard index (HI), acute HI, and fine particulate matter ($PM_{2.5}$) concentration from construction on off-site receptors;
- Excess lifetime cancer risk, chronic HI, acute HI, and $PM_{2.5}$ concentrations from operation on off-site receptors; and
- Cumulative excess lifetime cancer risk, chronic HI, and $PM_{2.5}$ concentration from construction and surrounding sources on off-site receptors.

Project construction and operational CAP and GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod®) version 2016.3.1, using Project-specific information where available.

Project health impacts from diesel particulate matter and speciated on-road total organic gas (TOG) emissions were calculated consistent with guidance in BAAQMD's 2011 CEQA

[1] A March 2012 Alameda County Superior Court judgment determined that the BAAQMD had failed to evaluate the environmental impacts of the land use development patterns that would result from adoption of the thresholds and ordered the thresholds set aside. The Court of Appeal reversed that judgment and the California Supreme Court decided the limited issue that CEQA does not require an analysis of the environment's impact on a project, with the exception of schools.

guidelines (BAAQMD 2011) and the 2015 California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) Hot Spots Guidance (2015). Consistent with BAAQMD and OEHHA Hot Spots guidance, health impacts were based on emissions of toxic air contaminants (TACs). Concentrations of TACs were estimated using AERMOD, a Gaussian air dispersion model recommended by United States Environmental Protection Agency (USEPA), California Air Resources Board (ARB), and BAAQMD for use in preparing environmental documentation for stationary or construction sources. Health impacts were calculated using the TAC concentrations and TAC toxicities and exposure assumptions consistent with the 2015 OEHHA Hot Spots guidance.

Table ES-1 shows the Project emissions and the BAAQMD CEQA thresholds. Estimated Project GHG emissions are 116,486 metric tonnes per year (MT/yr). Project compliance with the Santa Clara Climate Action Plan would lead to a less than significant impact under CEQA. The City Council of Santa Clara adopted a Climate Action Plan as part of its General Plan on December 3, 2013 (City of Santa Clara 2013).[2]

Table ES-1: Summary of Project Construction and Operational Emissions

	ROG	NOx	PM_{10}	$PM_{2.5}$
Construction Daily Emissions (lb/day)				
Construction Phase 1	5.3	28	1.5	1.4
Construction Phase 2	3.5	14	0.71	0.68
Construction Phase 3	4.5	21	1.0	1.0
Construction Phase 4	3.0	11	0.47	0.45
BAAQMD CEQA Thresholds	***54***	***54***	***82***	***54***
Operational Daily Emissions (lb/day)				
Project Emissions	13	6	3	1
BAAQMD CEQA Thresholds	***54***	***54***	***82***	***54***
Operational Annual Emissions (tpy)				
Project Emissions	2	1	1	0.2
BAAQMD CEQA Thresholds	***10***	***10***	***15***	***10***

Project operations would contribute maximum local CO concentrations of 12 parts per million (ppm) on a 1-hour average and 6.8 ppm on an 8-hour average. These impacts are below the respective BAAQMD thresholds of significance of 20.0 ppm and 9.0 ppm.

[2] http://www.santaclaraca.gov/government/departments/community-development/planning-division/general-plan

Table ES-2 shows the Project health impacts and the BAAQMD CEQA thresholds.

Table ES-2: Summary of Project Construction and Operational Health Impacts at the Maximally Exposed Individual Sensitive Receptor (MEISR)

	Excess Lifetime Cancer Risk in one million	**Noncancer Chronic HI (unitless)**	**Noncancer Acute HI (unitless)**	**$PM_{2.5}$ Concentration ($\mu g/m^3$)**
Project Construction Health Impacts				
Project Impact	3.54	0.0021	0.20	0.012
BAAQMD CEQA Thresholds	***10***	***1***	***1***	***0.3***
Project Operational Health Impacts				
Project Impact	0.7	0.000079	0.67	0.007
BAAQMD CEQA Thresholds	***10***	***1***	***1***	***0.3***

1. INTRODUCTION

At the request of Vantage Data Centers, Ramboll Environ US Corporation (Ramboll Environ) has prepared this technical report documenting air quality (AQ) and greenhouse gas (GHG) analyses for the construction and operational activities of the proposed data center, located on three land parcels on Mathew Street, in Santa Clara, California (referred to as the "Project"). The analyses follows the Bay Area Air Quality Management District (BAAQMD) California Environmental Quality Act (CEQA) Guidelines released in 2011 (BAAQMD 2011).[3]

1.1 Project Description

The proposed Project spans from 651 to 825 Mathew Street and is bounded by Lafayette Street to the West, rail tracks to the East, a Home Depot location to the North and Mathew Street to the South in Santa Clara, California. The property is an approximately 9.3-acre lot. The proposed location and boundary are shown in **Figure 1**. The proposed Project will be a data center developed over four construction phases from 2017 to 2022. At full build-out, the project will include thirty-two (32) 3-megawatts (MW) capacity Tier-2 emergency generators with diesel particulate filters (DPF) (a total backup capacity of 96 MW), surface street parking spaces, and 9 cooling water towers.

1.2 Objective and Methodology

The BAAQMD 2011 CEQA Guidelines contain recommended thresholds for construction and operational criteria air pollutant (CAP) and precursor emissions, GHG emissions, and risks and hazards associated with toxic air contaminant (TAC) emissions from an individual project (BAAQMD 2011). This report evaluates the AQ and GHG impacts, together with risks and hazards associated with Project construction and operational activities, on off-site receptors and the cumulative impact to off-site sensitive receptors from Project construction, operation, and surrounding sources.

1.3 Thresholds Evaluated

The AQ analysis of this report evaluates the daily and annual regional emissions of criteria pollutants and precursors from construction and operation of the Project and evaluates these emissions against BAAQMD's May 2011 significance thresholds for emissions (BAAQMD 2011). These thresholds are as follows:

Construction CAP Emissions:

- Average daily emissions of Reactive Organic Gases (ROG) greater than 54 pounds per day (lb/day);
- Average daily emissions of Nitrogen Oxides (NOx) greater than 54 lb/day;
- Average daily exhaust emissions of particulate matter less than 10 micrometers in diameter (PM_{10}) greater than 82 lb/day; and

[3] A March 2012 Alameda County Superior Court judgment determined that the BAAQMD had failed to evaluate the environmental impacts of the land use development patterns that would result from adoption of the thresholds and ordered the thresholds set aside. The Court of Appeal reversed that judgment and the California Supreme Court decided the limited issue that CEQA does not require an analysis of the environment's impact on a project, with the exception of schools.

- Average daily exhaust emissions of fine particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$) greater than 54 lb/day.

Operational CAP Emissions:

- Average daily emissions of ROG greater than 54 lb/day, or maximum annual emissions of 10 tons per year (tpy);
- Average daily emissions of NOx greater than 54 lb/day, or maximum annual emissions of 10 tpy;
- Average daily emissions of PM_{10} greater than 82 lb/day, or maximum annual emissions of 10 tpy; and
- Average daily emissions of $PM_{2.5}$ greater than 54 lb/day, or maximum annual emissions of 10 tpy.

Local carbon monoxide (CO) concentrations:

- 8-hour average concentration of 9.0 parts per million (ppm)
- 1-hour average concentration of 20.0 ppm

The GHG analysis of this report evaluates the GHG emissions from operation of the Project and evaluates these emissions against BAAQMD's May 2011 significance thresholds for emissions. These thresholds are as follows:

- Stationary source direct GHG emissions of 10,000 metric tonnes per year (MT/yr) and
- Direct and indirect GHG emissions of 1,100 MT/yr or
- Direct and indirect GHG emissions per service population of 4.6 metric tonnes per service population (MT/SP) or
- For direct and indirect GHG emissions, compliance with a Qualified GHG Reduction Strategy.

The health risk assessment (HRA) in this report evaluates the estimated cancer risk, noncancer chronic hazard index (HI), acute HI, and $PM_{2.5}$ concentration associated with construction and operation of the Project's emissions of Toxic Air Contaminants (TACs). The Toxic Air Contaminants considered are those included in BAAQMD Rule 2-5, New Source Review of Toxic Air Contaminants. No chronic or acute health impacts are shown for CAPs, including NO_2, consistent with BAAQMD CEQA guidance. The HRA evaluates potential sensitive receptor locations including:

- "Residential dwellings, including apartments, houses, condominiums;
- Schools, colleges, and universities;
- Daycares;
- Hospitals; and
- Senior-care facilities." (BAAQMD 2012a)

Ramboll Environ conducted a sensitive receptor search within the 1,000-foot zone of influence, and determined that the only sensitive receptors are residential dwellings to the southwest of the Project site. However, for completeness, Ramboll Environ also included a nearby soccer facility directly south of the Project site as a potential sensitive receptor.

To meet the above stated objectives, this HRA was conducted consistent with the following guidance:

- Air Toxics Hot Spots Program Risk Assessment Guidelines (Office of Environmental Health Hazard Assessment [OEHHA] 2015);
- May 2011 BAAQMD CEQA Guidelines (BAAQMD 2011); and
- BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD 2012a).

Ramboll Environ compared the results of emissions and health risk analyses to the BAAQMD 2011 CEQA significance thresholds. Construction and operational health impacts of the Project were compared against the BAAQMD 2011 CEQA single source thresholds. The thresholds are:

Single Source Impacts:

- An excess lifetime cancer risk level of more than 10 in one million;
- A noncancer chronic HI greater than 1.0;
- A noncancer acute HI greater than 1.0; and
- An incremental increase in the annual average $PM_{2.5}$ concentration of greater than 0.3 micrograms per cubic meter (µg/m^3).

If a project does not exceed the identified significance thresholds, its emissions would not be cumulatively considerable. For reference, the BAAQMD 2011 cumulative CEQA significance thresholds are:

- An excess lifetime cancer risk level of more than 100 in one million;
- A noncancer chronic HI greater than 10.0; and
- An annual average $PM_{2.5}$ concentration of greater than 0.8 micrograms per cubic meter (µg/m^3).

1.4 Report Organization

This technical report is divided into eight sections as follows:

Section 1.0 – Introduction: describes the purpose and scope of this technical report, the objectives and methodology used in this technical report, and the report organization.

Section 2.0 – Emission Estimates: describes the methods used to estimate the emissions of CAPs, GHGs, and TACs from the Project;

Section 3.0 – Estimated Air Concentrations: discusses the air dispersion modeling, the selection of the dispersion models, the data used in the dispersion models (e.g., terrain, meteorology, source characterization), and the identification of residential and sensitive locations evaluated in this technical report.

Section 4.0 – Risk Characterization Methods: provides an overview of the methodology for conducting the HRA.

Section 5.0 – Project Health Risk Assessment: presents the estimated emissions of CAPs and GHGs, estimated excess lifetime cancer risks, chronic noncancer HIs, acute noncancer HIs, and $PM_{2.5}$ concentrations for the Project.

Section 6.0 – References: includes a listing of all references cited in this report.

2. EMISSION ESTIMATES

Ramboll Environ estimated CAP, GHG, and TAC emissions from the four phases of construction of the Project from 2017 to 2022, as well as emissions from the operation of the Project. The CAPs of interest include ROG, NOx, $PM_{2.5}$ and PM_{10} (the BAAQMD thresholds for construction specify exhaust PM only). There is no mass emissions threshold for CO, although the mass emissions are necessary for CO concentration impact modeling, so Ramboll Environ also estimated CO emissions from operation of the Project. The GHGs of interest include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which are commonly combined by global warming potential-weighted average into carbon dioxide equivalents (CO_2e). One of the TACs of interest is diesel particulate matter (DPM), emissions of which are assumed to be equal to Exhaust PM_{10} from on- and off-road construction equipment, and exhaust PM_{10} from backup diesel engines during operation. Other TACs are speciated from TOG from on-road emissions from gasoline vehicles. These emissions estimates were used to compare to BAAQMD thresholds and as inputs to the HRA. The methodologies used by Ramboll Environ are summarized below.

Tables 1 and **2** present the Project characteristics and land use assumptions used in the emissions estimation.

2.1 Calculation Methodologies for Construction Emissions

Emissions from construction activities were estimated using the California Emissions Estimator Model (CalEEMod®). CalEEMod® was developed by Ramboll Environ in collaboration with the California Air Pollution Control Officers Association for use in developing emission inventories suitable for CEQA analysis. Sources of construction CAP and TAC emissions are exhaust from off-road equipment, on-road vehicles and ROG emissions from architectural coating and paving activities.

Table 3 outlines the CalEEMod® inputs on construction phasing schedule provided by Vantage Data Centers.

2.1.1 Emissions from Off-road Equipment

CAP and TAC emissions from off-road equipment were based on the equipment inventory, equipment specifications, their daily usage and construction phasing schedule. **Table 4** summarizes the off-road equipment characteristics and their daily usage. The construction equipment list is based on CalEEMod® defaults along with project specific input from Vantage Data Centers. Otherwise the emission factors and activity levels assumed for the equipment are CalEEMod® defaults.

2.1.2 Emissions from On-road Vehicles

CalEEMod® estimates CAP and TAC emissions from on-road haul trucks and worker and vendor trips based on vehicle type, emission factor, distance travelled, and number of trips. The number of truck and construction worker and vendor trips are from the CalEEMod® default trip rates, as well as the Project-specific total material exported and demolished (shown in **Table 5**). The Project construction trip generation is shown in **Table 6**. Emission factors used are the CalEEMod® defaults. All hauling trucks were assumed by CalEEMod® to be Heavy Heavy Duty Trucks (HHDT), vendor trucks were assumed to be 50% HHDT and 50% Medium Heavy Duty Truck, and worker vehicles were assumed to be a 50%/25%/25% mix of Light Duty Automobiles, Light Duty Truck class 1 and Light Duty Truck class 2. CalEEMod contains fuel-type information by fleet mix for each year. The default trip lengths in CalEEMod® were used. That is, for haul trucks, a 20-mile one-way trip length was used. For worker trips a 10.8-mile trip length was used. For vendor trips a 7.3-mile trip length was used.

2.1.3 Emissions from Architectural Coating and Asphalt Paving

ROG off-gassing emissions from paving are calculated based on the paved parking area of the Project site using CalEEMod®'s Volatile Organic Compounds (VOC) per square foot emission factor.

ROG off-gassing emissions from architectural coating are calculated based on the square footage of the new buildings, an assumed VOC content of the paint, and an application rate of 100%, consistent with CalEEMod®. The VOC content of the indoor and outdoor paints are assumed to be consistent with the limits set in BAAQMD Regulation 8, Rule 3 (BAAQMD 2009).

2.1.4 Summarized Construction Emissions:

CAP emissions from Project construction phases were added and then normalized over the number of days in the construction period. CAP emissions from on- and off-road construction sources are presented in **Table 7**. Additionally, GHG emissions for construction are presented for informational purposes in **Table 7**.

CalEEMod® outputs for Project construction emissions per construction phase are included in **Appendix A** of this technical report.

2.2 Calculation Methodologies for Operational Emissions

Emissions from Project operation were estimated using CalEEMod® for land-use and building emissions and manufacturer's data for stationary sources (emergency generators).

2.2.1 Stationary Sources

The proposed Project includes 32 diesel back-up generators, the locations of which are shown in **Figure 3**. **Table 8** presents controlled emission factors used to calculate daily and annual criteria pollutant emission rates as well as uncontrolled emission factors and DPF abatement efficiencies used to calculate the controlled emission factors. Ramboll Environ used United States Environmental Protection Agency (USEPA) engine certified emission factors (USEPA 2015), consistent with recent permitting actions by the BAAQMD. Engine emissions are based on non-emergency operations (primarily the schedule of testing that is required for the generators) and the planned number of hours of non-emergency operations (in accordance with BAAQMD Regulation 2, Rule 5). Consistent with BAAQMD permitting methods, no load factor is applied. Annual non-emergency operation is limited to 50 hours, as stated in the Airborne Toxic Control Measure for Stationary Toxic Compression Ignition Engines (Section 93115, Title 17, CCR). Emission rates were averaged over the period of a year since the emergency generators could potentially be tested at any time of day or day of year. **Tables 9** and **10** present the daily and annual CAP emissions from non-emergency operation of the backup engines, with annual GHG emissions also presented in **Table 10**. GHG emissions were calculated following the same methodology as described above for CAPs. The USEPA engine certification emission factors include CO_2. Ramboll Environ used the USEPA Mandatory Reporting Rule emission factors for CH_4 and N_2O emissions (USEPA 2013), which were added to develop a carbon dioxide equivalent (CO_2e) emission factor using the same global warming potentials as in CalEEMod®.

2.2.2 Land Use Sources

Ramboll Environ used CalEEMod® to estimate CAP and GHG emissions due to electricity usage, natural gas usage, mobile sources, area sources such as landscaping maintenance equipment, water treatment and distribution, and wastewater usage.

Annual GHG emissions associated with electricity usage are the product of estimated annual electricity usage and the utility-specific carbon intensity factor, which depends on the utility's portfolio of power generation sources. The proposed Vantage Data Center is served by Silicon Valley Power. The Silicon Valley Power carbon intensity factor of 380 lbs of CO_2 per megawatt-hour (MWh) for the year 2016 and beyond represents the utility's aggregated carbon intensity since they stopped purchasing power from any coal-fired power plants (City of Santa Clara 2013). To be conservative, since the Silicon Valley Power carbon intensity may already include CH_4 and N_2O, the CalEEMod® default CH_4 and N_2O intensity factors of 0.029 and 0.006 pounds of CO_2e per MWh, respectively, were used for all years considered. Combined, this results in a carbon intensity of 382.5 pounds of CO_2e per MWh for the year 2018 and onwards.

A second utility scenario was considered, using grid average carbon intensities. CO_2, CH_4, and N_2O intensity factors for the year 2012 were obtained from the USEPA for the Western Electricity Coordinating Council (WECC) California (CAMX) subregion. Intensities for 2012 were adjusted to reflect the California SBX1-2 mandate and Executive Order S-14-08 requiring that providers serve 33% of their electricity load with renewable energy by 2020. Adjusted intensities were used for estimating operational GHG annual emissions from full Project buildout, occurring post-2020. The derivation of adjusted grid average carbon intensities is shown in **Table 11**.

The annual electricity usage was estimated based on building energy usage from CalEEMod® with the addition of supplemental energy usage for data center operations. The land-use specific CalEEMod® default energy use rates were adjusted to incorporate the 2016 Title 24 energy efficiency standards, as presented in **Table 12**. Additional data center energy usage was estimated to be 665,760 MWh/year, based on information provided by the Project Sponsor. Total energy usage estimates for Project operations are presented in **Table 13**. CAP and GHG emissions associated with energy usage (on-site natural gas and building electricity use plus data center electricity demand) are shown in **Table 14**.

Ramboll Environ relied on Project operational trip generation memorandum from Kimley Horn, dated September 29, 2016. The trip generation rates from Kimley Horn were input into CalEEMod®, overriding the default values. Trip generation rates included 410 daily trips for all weekdays and weekend days for Project operation at full buildout.

In addition, annual GHG emissions associated with water usage were based on estimated annual water usage for cooling purposes as well as the general operational usage, which includes water usage at the Project buildings. The Project consists of eight cooling towers and 10 roof-mounted, direct evaporation cooling, air handling units (collectively referred to as "cooling towers") with total water consumption of approximately 1.088 gallons/day per square foot, based on mechanical design estimates from the Project Sponsor.

2.2.3 Summary of Project Operational Criteria Pollutant Emissions

Total Project operational CAP emissions are the sum of land-use and emergency generator emissions, as shown in **Table 15**. As required by BAAQMD Rule 2-2, the BAAQMD will provide offsets for stationary source NOx emissions (i.e., the emergency generators) from the BAAQMD small facility bank. The emissions in **Table 15** are average daily emissions, for comparison to the BAAQMD threshold for average daily emissions.

CalEEMod® outputs for Project operational emissions are included in **Appendix A** of this technical report.

2.2.4 Summary of Project Operational GHG Emissions

GHG emissions for Project operation are presented in **Table 16**. CalEEMod® outputs for Project operational emissions are included in **Appendix A** of this technical report. GHG emissions from the emergency generators are subject to the BAAQMD CEQA threshold for stationary sources. The land-use and building energy GHG emissions are addressed by three BAAQMD CEQA threshold options for direct and indirect sources, any one of which can be applied. Information pertaining to the two quantitative thresholds for direct and indirect GHG emissions is shown in **Table 16**.

The BAAQMD allows a Project to evaluate CEQA significance for operational GHG emissions by compliance with a Qualified GHG Reduction Plan. The City Council of Santa Clara adopted a Climate Action Plan as part of its General Plan on December 3, 2013 (City of Santa Clara 2013).[4] Project compliance with the Santa Clara Climate Action Plan would lead to a less than significant impact under CEQA.

The Climate Action Plan contains a goal specifically for data centers, to "require new data centers with an average rack power rating of 15 kW or more to complete a feasibility study identifying techniques to achieve a power usage effectiveness rating of 1.2 or lower. Where determined feasible, the City will encourage applicants to utilize such techniques." Examples of other Climate Action Plan goals with which the Project can work toward are increased electricity efficiency, solar PV installation, participation in City water conservation programs, waste reduction and diversion, and providing electric vehicle chargers.

Many Climate Action Plan goals require City actions, but the Project can participate in many of the GHG emissions reducing activities recommended for municipal sources, such as energy efficiency and water conservation. The Climate Action Plan goal of removing coal-fired power plants from Silicon Valley Power's portfolio has been achieved by the City, lowering Project GHG emissions from grid energy usage.

The first full year of Project operation is 2023, three years after the effective date of the Climate Action Plan described above. Electricity usage makes up nearly 99% of the operational Project GHG emissions, with mobile sources making up slightly under half a percent. GHG emissions associated with electricity usage from the data center will continue to decline after 2020 due to increasing requirements for renewable power in California. Mobile source emissions will also decline after 2020 due to increasing fuel efficiency and electric car market penetration. The RPS for California increases from 33% in 2020 to 50% in 2030 through Senate Bill 350. Currently, SVP has 36% renewable power, and the eGrid has 13% renewable power. There is no requirement that the fraction of renewable power increase linearly between 2020 and 2030, so estimating the operational GHG emissions in 2023 to account for the likely increasing renewable power in the supply is speculative. However, because the 2030 RPS is 50% in 2030, it is reasonable to assume that GHG emissions will continue to drop and will be consistent with California's climate goals for 2030.

4 http://www.santaclaraca.gov/government/departments/community-development/planning-division/general-plan

2.3 Calculation Methodologies for Simultaneous Construction and Operational Emissions

Construction activities occur over six years (2017 to 2022) with four distinct phases. Ramboll Environ assumed that operation for each phase would begin within the same year construction is completed, meaning construction for the following phase could occur simultaneously with operation of previously constructed phases. Ramboll Environ used CalEEMod® to estimate CAP and GHG emissions due to operation of each individual phase. For informational purposes, a conservative estimate of overlapping emissions from simultaneous construction and operational activities were summed and are presented on a year-by-year basis in **Table 17**.

3. ESTIMATED AIR CONCENTRATIONS

Project construction and operational activities will generate emissions that will be transported outside of the physical boundaries of the Project site, potentially impacting nearby sensitive receptors such as residential areas. Methodologies to estimate concentrations resulting from Project construction and operational activities are provided below. Ramboll Environ performed a refined HRA for each phase of construction activities and for non-emergency operation of the emergency generators. To assess offsite impacts from Project operational traffic, Ramboll Environ used BAAQMD screening tools specific to Santa Clara County.

3.1 Chemical Selection

The cancer risk, chronic, and acute hazards in the HRA for the Project construction and stationary source operation were based on TAC emissions from the Project. Modeled sources of TACs include on-road construction traffic, off-road construction equipment, and diesel-powered emergency generators. Accordingly, the chemicals to be evaluated in the HRA were DPM, speciated total organic gases (TOG) in diesel exhaust, and speciated evaporative and exhaust TOGs from gasoline vehicles. DPM emissions are assumed to be equal to Exhaust PM_{10} from on- and off-road construction equipment, and exhaust PM_{10} from backup diesel engines during operation. Other TACs are speciated from total organic gases (TOG) from on-road emissions from gasoline vehicles.

Diesel exhaust, a complex mixture that includes hundreds of individual constituents, is identified by the State of California as a known carcinogen (California Environmental Protection Agency [Cal/EPA] 1998). Under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole. Cal/EPA and other proponents of using the surrogate approach to quantifying cancer risks associated with the diesel mixture indicate that this method is preferable to use of a component-based approach. A component-based approach involves estimating risks for each of the individual components of a mixture. Critics of the component-based approach believe it will underestimate the risks associated with diesel as a whole mixture because the identity of all chemicals in the mixture may not be known and/or exposure and health effects information for all chemicals identified within the mixture may not be available. Furthermore, Cal/EPA has concluded that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated components" (OEHHA 2003). The DPM analyses for cancer and chronic hazards will be based on the surrogate approach, as recommended by Cal/EPA. In the absence of an acute toxicity value for diesel exhaust, speciated TOG will be used as a conservative estimate.

For the analysis of local CO concentrations, Ramboll Environ used operational CO emissions from stationary sources during project operation.

3.2 Sources of Emissions

The relevant emissions sources of TACs for the refined HRA are off-road equipment and on-road trucks during construction and emergency generators during operation. Emissions estimates for operational mobile sources are not included in the refined HRA since BAAQMD screening tools are used to assess operational mobile source health impacts. Emissions of CO from project operation are from emergency generators only. The screening level for operational traffic is 44,000 vehicles per hour (BAAQMD 2011), which is 100 times higher than total daily trip generation from the project. As such operational traffic is a *de minimis* contributor to operational CO emissions. **Table 18** shows the maximum CO emissions per generator, using the USEPA engine certification emission factor. The CO concentrations analysis is conservative in that it assumes all 32 emergency generators are in use at the same time during the worst meteorological conditions for the respective averaging periods.

3.3 Air Dispersion Modeling

The most recent version of AERMOD (Version 15181) was used to evaluate ambient air concentrations of CO, DPM, $PM_{2.5}$ and TOG at off-site receptors from both Project construction sources and the non-emergency use of the backup generators. For each receptor location, the model generates air concentrations that result from emissions from multiple sources. If unit emissions (i.e., 1 g/s) are modelled, the resultant value for each receptor location is called the air dispersion factor.

Air dispersion models such as AERMOD require a variety of inputs such as source parameters, meteorological conditions, topographical information, and receptor parameters. Modeling parameters are shown in **Table 19**. Construction source parameters are from BAAQMD modeling performed in support of the San Francisco Community Risk Reduction Plan (SF CRRP) (Bay Area Air Quality Management District, San Francisco Department of Public health, San Francisco Planning Department 2012). The Project boundary is shown in **Figure 1**.

Meteorological data: Air dispersion modeling requires the use of meteorological data that ideally are spatially and temporally representative of conditions in the immediate vicinity of the site under consideration. Ramboll Environ used surface meteorological data from the San Jose Airport for years 2009 through 2013, with upper air data collected at the Oakland Airport for the same time period.

Terrain considerations: Elevation and land use data were imported from the National Elevation Dataset maintained by the United States Geological Survey (USGS 2013). An important consideration in an air dispersion modeling analysis is the selection of whether or not to model an urban area. Here the model assumes an urban land use as has been done for similar projects in the area. Ramboll Environ will use 126,215, the 2014 population of the City of Santa Clara, as the urban population in AERMOD (US Census Bureau 2014). This is a conservative underestimate of the population that contributes to the urban heat island effect in the vicinity of the Project.

Emission rates: Emissions were modeled using the unit rate emissions method for all but CO, such that each source has a unit emission rate (i.e., 1 gram per second [g/s]) and the model estimates dispersion factors with units of ($\mu g/m^3$)/(g/s). Actual emissions were multiplied by the dispersion factors to obtain concentrations. CO modeling used actual emission rates in g/s.

Emitting activities were modeled to reflect the actual hours of operation. For Project construction, emissions were modeled to occur between 7 AM and 4 PM, a span of 9 hours, although equipment operation may total less than 9 hours. For Project operation, generators were modeled as if they could operate at any hour of the day.

For annual average ambient air concentrations, the estimated annual average dispersion factors were multiplied by the annual average emission rates. For maximum hourly ambient air concentrations, the estimated maximum hourly dispersion factors were multiplied by the maximum hourly emission rates.

Source parameters: Source locations and parameters are necessary to model the dispersion of air emissions. Construction source locations are shown in **Figure 2** and operational source locations are shown in **Figure 3**. The construction HRA covers all years of construction and the operational HRA assumes the Project is at full buildout. At full buildout, there are seven generators that will be stacked at double height on top of ground-level generators, so Figure 3 shows 25 locations for all 32 generators. Source parameters are detailed in **Table 19**.

The construction area was represented by four separate area sources representing each of the four construction phases. Area sources were selected for this HRA with a release height of 5 meters and an initial vertical dimension of 1.4 meters. The use of area sources rather than volume sources will result in a conservative overestimate of emissions at nearby receptors, due to the use of the horizontal meander algorithm for volume sources in AERMOD.

The operational sources (i.e., emergency generators) were represented by point sources with identical exit temperatures, exit velocities and exit diameters (750.9 degrees K, 57 meter (m)/s and 0.51 m, respectively), based on manufacturer information. The stack heights for the generators were estimated based on Project renderings. Some of the Project generators will be stacked on top of one another. For single storied generators, the modeled stack height is 3.66 m. For double storied generators, the modeled stack height is 7.92 m.

Receptors: Nearby sensitive receptor populations were identified within a 1,000-m buffer of the Project site, which is larger than the Project's 1,000-foot zone of influence. As discussed above, sensitive receptors include residents to the southwest of the Project site and a soccer facility south of the Project site. A receptor grid was created to cover all potential sensitive receptors within 1,000-m of the Project site. A fine grid of receptors with 25-m spacing was modeled out to 500 m, and a coarse grid with 50-m spacing was modeled out to 1,000 m. Modeled off-site receptors are shown in Figure 4. Receptors were modeled at 1.8 meters of height, consistent with BAAQMD guidance for breathing height. As discussed previously, average annual and maximum hourly dispersion factors were estimated for each receptor location.

Concentrations: As discussed above, for all but CO modeling emissions were modeled using the unit rate emission factor method, such that the model estimates dispersion factors based on an emission rate of 1 g/s and the dispersion factors have units of [$\mu g/m^3$]/[g/s]. Estimated emissions were multiplied by the dispersion factors to obtain concentrations. CO modeling used maximum 1-hour and 8-hour emissions from emergency generator use.

Modeling Adjustment Factor: OEHHA (2015) recommends applying an adjustment factor to the annual average concentration modeled assuming continuous emissions (i.e., 24 hours per day, seven days per week), when the actual emissions are less than 24 hours per day and exposures are concurrent with the emitting activities. Operational emissions for the Project are modeled with the assumption that they can occur at any hour of the day, but construction activities are only modeled between 7 AM and 4 PM. Thus, a modeling adjustment factor (MAF) was only applied to the construction HRA.

Construction emissions only impact receptors during the 9 hours per day and five days per week during which construction activities are occurring. However, the emissions modeled during those hours were annualized assuming 24 hour per day in the modeling outputs. Thus, an MAF must be applied to the annual average concentration used in the evaluation to account for an emissions schedule that is not occurring 24 hours per day, seven days per week if the exposure takes place preferentially during construction hours.

Residents were assumed to be exposed to annual average construction emissions (averaged from actual construction hours[5]) 24 hours per day, seven days per week. This assumption is consistent with the modeled annual average air concentration (24 hours per day, seven days per week). Thus, the annual average concentration was not adjusted for the residential population.

The MAF for the recreational soccer receptors assumes receptors may be present throughout the hours of the day emissions are occurring but may be present on the weekends when emissions do not occur. Therefore, a modeling adjustment factor of 2.67 was applied to the annual average concentration ([24 hours/9 hours]) for the recreational population. The MAF is shown in **Table 20**.

[5] Construction is assumed to occur up to 9 hours per day for the Project; however, AERMOD (air dispersion model) will average the predicted concentration over hours when construction is not occurring, assuming zero emissions during that period. Therefore, the average annual concentration for construction is representative of a 24-hour concentration.

4. RISK CHARACTERIZATION METHODS

The following sections discuss in detail the various components required to conduct the HRA.

4.1 Project Sources Evaluated

As discussed in Section 1.3, excess lifetime cancer risk, chronic and acute HIs, and $PM_{2.5}$ concentrations were evaluated for off-site sensitive receptor exposures to emissions from Project construction and operation. The TACs of concern are those in BAAQMD Rule 2-5, so no health impacts from CAPs are considered in this analysis, consistent with BAAQMD CEQA Guidance.

4.2 Exposure Assessment

Potentially Exposed Populations: This assessment evaluated off-site receptors potentially exposed to Project emissions from construction and operational activities. These exposed populations include residential and recreational receptors at a nearby soccer field. Both long-term health impacts (cancer risk, chronic HI, and $PM_{2.5}$ concentration) and acute hazards were evaluated for the residential and recreational locations.

Exposure Assumptions: The exposure parameters used to estimate excess lifetime cancer risks due to construction and operational activities were obtained using risk assessment guidelines from OEHHA (2015) and draft guidelines from the BAAQMD that indicate how the BAAQMD would integrate the 2015 OEHHA Guidelines (BAAQMD 2016), unless otherwise noted, and are presented in **Table 20**. Based on the TACs considered, the only relevant exposure pathway is inhalation, so this HRA considers inhalation exposure only.

For offsite residential receptors, Ramboll Environ selected conservative exposure parameters assuming that exposure would begin during the third trimester of a residential child's life. Ramboll Environ used 95th percentile breathing rates up to age 2, and 80th percentile breathing rates above age 2, consistent with BAAQMD guidance (2016). For construction, off-site child residents were assumed to be present at one location during the entire construction period (six years). For operation, off-site residents were assumed to be present at one location for a 30-year period, beginning with exposure in the third trimester.

For offsite recreational soccer receptors, Ramboll Environ selected exposure parameters using the conservative assumption that a child would be located at the soccer facility starting at age 2, then that same child would continue to be exposed by participating in activities at the facility as they got older. For construction, the off-site recreational child was assumed to be present one day a week for one hour per day during construction hours for the six-year construction period. For operation, the child was assumed to be present one day a week for one hour per day for a full 30 years. Both the construction and operational exposures used the 95th percentile 8-hour moderate intensity breathing rate from the OEHHA guidelines.

Calculation of Intake: The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, IF_{inh}, can be calculated as follows:

$$IF_{inh} = \frac{DBR * FAH * EF * ED * CF}{AT}$$

Where:

IF_{inh}	=	Intake Factor for Inhalation (m^3/kg-day)
DBR	=	Daily Breathing Rate (L/kg-day)
FAH	=	Fraction of Time at Home (unitless)
EF	=	Exposure Frequency (days/year)
ED	=	Exposure Duration (years)
AT	=	Averaging Time (days)
CF	=	Conversion Factor, 0.001 (m^3/L)

The chemical intake or dose is estimated by multiplying the inhalation intake factor, IF_{inh}, by the chemical concentration in air, C_i. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the OEHHA Hot Spots guidance (2015).

4.3 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories – cancer and non-cancer endpoints. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk assessment.

Excess lifetime cancer risk and chronic HI calculations for both project construction and operation utilized the toxicity values for DPM from diesel generators and on-road construction traffic and TACs from speciated on-road gasoline TOGs. The on-road construction trips considered are worker, vendor, and haul truck trips. Acute HI calculations utilized the toxicity values for TACs from both speciated diesel TOG for diesel generators and on-road construction traffic and TOGs from on-road gasoline-powered vehicles. The speciation profiles used are presented in **Table 21**. The toxicities of each chemical are shown in **Table 22**. The TACs of concern have inhalation health effects only.

4.4 Age Sensitivity Factors

The estimated excess lifetime cancer risks for a resident child was adjusted using the age sensitivity factors (ASFs) recommended by OEHHA (2015). This approach accounts for an "anticipated special sensitivity to carcinogens" of infants and children. Cancer risk estimates are weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age and by a factor of three for exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 to 30 years. **Table 23** shows the ASFs used for children during the construction period.

4.5 Risk Characterization

4.5.1 Estimation of Cancer Risks

Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF).

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$Risk_{inh} = C_i \times CF \times IF_{inh} \times CPF \times ASF$$

Where:

$Risk_{inh}$	=	Cancer risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unitless)
C_i	=	Annual average air concentration for chemical during construction activities$_i$ (μg/m^3)
CF	=	Conversion factor (mg/μg)
IF_{inh}	=	Intake factor for inhalation (m^3/kg-day)
CPF_i	=	Cancer potency factor for chemical$_i$ (mg chemical/kg body weight-day)$^{-1}$
ASF	=	Age sensitivity factor (unitless)

4.5.2 Estimation of Chronic and Acute Noncancer Hazard Quotients/Indices

Chronic HQ

The potential for exposure to result in adverse chronic noncancer effects is evaluated by comparing the estimated annual average air concentration (which is equivalent to the average daily air concentration) to the noncancer chronic reference exposure level (cREL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse chronic noncancer health effects from simultaneous exposure to multiple chemicals, the chronic HQs for all chemicals are summed, yielding a chronic HI.

$$HQi = Ci / cREL$$

Where:

HQi	=	Chronic hazard quotient for chemical i
HI	=	Hazard index
Ci	=	Annual average concentration of chemical i (μg/m3)
cRELi	=	Chronic noncancer reference exposure level for chemical i (μg/m^3)

Acute HI

The potential for exposure to result in adverse acute effects is evaluated by comparing the estimated one-hour maximum air concentration of chemical to the acute reference exposure level (aREL) for each chemical evaluated in this analysis. When calculated for a single chemical, the comparison yields an HQ. To evaluate the potential for adverse acute health effects from simultaneous exposure to multiple chemicals, the acute HQs for all chemicals are summed, yielding an acute HI.

$$HQi = Ci / aREL$$

Where:

HQi = Acute hazard quotient for chemical i

HI = Hazard index

Ci = One-hour maximum concentration of chemical i (μg/m3)

aRELi = Acute reference exposure level for chemical i (μg/m^3)

5. PROJECT HEALTH RISK ASSESSMENT

In this section, the Project HRA results are presented for each of the BAAQMD CEQA thresholds.

As discussed in Section 1.3, the single source significance thresholds for health risks and hazards from both Project construction and operation are:

- An excess lifetime cancer risk level of more than 10 in one million;
- A chronic noncancer HI greater than 1.0;
- A noncancer acute HI greater than 1.0; and
- An incremental increase in the annual average $PM_{2.5}$ of greater than 0.3 µg/m^3.

5.1 Construction HRA

Table 24 shows the excess lifetime cancer risk, chronic noncancer HI, acute noncancer HI and annual $PM_{2.5}$ concentration at the Maximally Exposed Individual Sensitive Receptor (MEISR) during Project construction. The incremental increase in cancer risk due to construction is 3.54 in one million at the MEISR. The chronic and acute noncancer HIs at the respective MEISRs, which are not in the same location, are 0.0021 and 0.20. The annual $PM_{2.5}$ concentration for the maximum year of construction is 0.012 µg/m^3. **Table 24** gives the coordinates of each MEISR.

5.2 Operational HRA

Table 25 shows the excess lifetime cancer risk, chronic noncancer HI, acute noncancer HI and annual $PM_{2.5}$ concentration at the MEISR during Project operation. . The incremental increase in cancer risk due to Project operation is 0.7 in one million at the MEISR. The chronic and acute noncancer HIs at the respective MEISRs, which are not in the same location, are 0.000079 and 0.67. The annual $PM_{2.5}$ concentration due to Project operation is 0.007 µg/m^3. **Table 25** gives the coordinates of each MEISR. The mobile-source risks are scaled up from the values in the BAAQMD screening tools for on-road sources by a factor of 1.4. The factor of 1.4 is the increase in screening risks due to application of the 2015 OEHHA guidance, as the BAAQMD screening tools were developed before incorporation of the 2015 OEHHA guidance.[6]

The sums total of Project construction and operational health impacts at their unique MEISRs are below all respective thresholds of significance for either construction or operation. For example, the sum of Project construction risk of 3.54 in one million and the Project operational risk of 0.7 in one million is 4.25 in one million, as shown in **Table 27**, which adds the Project construction and operation impacts. This is below the BAAQMD threshold of significance for either construction or operation, which is 10 in one million. As such, no year-by-year health risk assessment is performed for when Project construction overlaps with operation of the Project at partial buildout, because the combined risk will be below 4.25 in one million.

[6] Ramboll Environ utilized a scaling factor of 1.4, rounded up from 1.3744, to a previously listed cancer risk values from 2003 OEHHA Guidance to 2015 2015 OEHHA Guidance, in line with guidance from Virginia Lau of BAAQMD received February 2016.

As noted in Section 3.4, Local CO concentrations over both 1-hour and 8-hour averaging times are shown in **Table 18**. Pollutant concentrations at the 1-hour and annual MEISRs for Project construction and operation are listed in **Table 26**.

5.3 Cumulative HRA

The BAAQMD CEQA Guidelines establish numerical criteria for determining when an emissions increase is considered cumulatively considerable and thus triggers the need for a quantitative cumulative impacts assessment.

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project does not exceed the identified significance thresholds, its emissions would not be cumulatively considerable, resulting in less-than-significant air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary, but an analysis of cumulative sources is performed here for completeness. Ramboll Environ used the BAAQMD Stationary Source Screening Tool for Santa Clara County (BAAQMD 2012b) to identify existing permitted stationary sources within 1,000 feet of the MEISR. Ramboll Environ submitted a stationary source inquiry form to the BAAQMD to request updates and received the response in **Appendix B**. **Table 27** summarizes the risks and hazards at the MEISR from existing stationary sources. Some existing stationary source addresses do not match the location shown in the tool's Google Earth interface. Any source identified as being within 1,000 feet of the MEISR in the Google Earth interface is included in this analysis. When the BAAQMD provided updated HRSA results, as for Facility #19686, the updated HRSA results are used in **Table 27**.

BAAQMD on-road traffic tools were used along with existing trip count data to estimate health-risk impacts and $PM_{2.5}$ concentrations from on-road traffic. Traffic count data for Lafayette Street, the largest roadway in the vicinity of the Project, were taken from the Kimley Horn traffic study for the intersection of Lafayette Street and Walsh Avenue. The BAAQMD Roadway Screening Analysis Calculator (BAAQMD 2015) provides screening risk estimates for traffic for north-south roadways and east-west roadways in Santa Clara County. The peak hour traffic volume of 1,515 vehicles was conservatively used as the average daily traffic value input into the BAAQMD tool. Lafayette Street was treated as a north-south roadway with the MEISR to the west at a distance of 10 feet. As shown in **Table 27** the cancer risk from on-road traffic is 1.60 in one million and the $PM_{2.5}$ concentration is 0.033 $\mu g/m^3$. Caltrain was not considered in this cumulative assessment as the trains will be electric by Project operation in 2020,[7] so there will be no exhaust emissions impacts.

For TACs, the project would have a cumulatively considerable impact if project emissions would result in:

- Non-compliance with a qualified risk reduction plan; or
- An excess lifetime cancer risk level of more than 100 in one million;
- A chronic noncancer HI greater than 10; and

[7] http://www.caltrain.com/projectsplans/CaltrainModernization/Modernization/PeninsulaCorridorElectrificationProject.html

- An incremental increase in the annual average $PM_{2.5}$ of greater than 0.8 μg/m^3.

Based on the project-level analysis included above, the project would not have a cumulatively considerable impact based on these BAAQMD criteria:

- There is no qualified risk reduction plan in effect for the City of Santa Clara.
- The Project would not exceed the BAAQMD cumulatively considerable thresholds relative to the region's existing air quality conditions per the BAAQMD criteria.

Because the project would not meet the BAAQMD CEQA Guidelines criteria for a contribution to any potential adverse cumulative air health risk impacts from either construction or operation, it would not contribute to any potential adverse cumulative air impact on sensitive receptors.

As shown in **Table 27**, existing stationary sources contribute levels of $PM_{2.5}$ above the BAAQMD CEQA threshold of significance for $PM_{2.5}$ concentrations, although the Project contribution is less than significant.

6. REFERENCES

BAAQMD. 2009. Regulation 8 Organic Compounds Rule 3 Architectural Coatings. July. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/reg-08/rg0803_0709.pdf?la=en.

BAAQMD. 2011. California Environmental Quality Act Air Quality Guidelines. May. Available at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_May%202011_5_3_11.ashx.

BAAQMD. 2012a. Recommended Methods for Screening and Modeling Local Risks and Hazards. May. Available at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Risk%20Modeling%20Approach%20May%202012.ashx?la=en

BAAQMD. 2012b. Stationary Source Screening Analysis Tool. May. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/google-earth-layers-may-25-2012/santa_clara_2012.kml?la=en

BAAQMD. 2015. Roadway Screening Analysis Calculator. April. Available online at : http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/screeningcalculator_4_16_15-xlsx.xlsx?la=en

BAAQMD. 2016. Proposed Health Risk Assessment Guidelines. Air Toxics NSR program. January. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en

Bay Area Air Quality Management District, San Francisco Department of Public health, San Francisco Planning Department (SF CRRP). 2012. The San Francisco Community Risk Reduction Plan: Technical Support Documentation. December. Available online at: http://www.gsweventcenter.com/Appeal_Response_References%5C2012_1201_BAAQMD.pdf.

California Environmental Protection Agency (Cal/EPA), Office of Environmental Health Hazard Assessment (OEHHA). 1998. Findings of the Scientific Review Panel on The Report on Diesel Exhaust, as adopted at the Panel's April 22, 1998, meeting.

City of Santa Clara. 2013. City of Santa Clara. 2013. Climate Action Plan. Available online at: http://www.santaclaraca.gov/home/showdocument?id=10170 & http://www.siliconvalleypower.com/Home/Components/News/News/4654/2065?arch=1

Kimley Horn and Associates, Inc. 2016. Santa Clara Vantage Data Center Traffic Evaluation Memorandum. September 29.

Office of Environmental Health Hazard Assessment (OEHHA). 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. August. Available at: http://www.oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf

OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

US Census Bureau. 2014. QuickFacts Santa Clara City, California. Available at: http://www.census.gov/quickfacts/table/PST045215/0669084

United States Environmental Protection Agency (USEPA). 2013. General Stationary Fuel Combustion Sources. 40 Code of Federal Regulations, Part 98, Subpart C, Table C-2. Office of Air Quality Planning and Standards.

USEPA. 2015. Large Engine Certification Data for Model Year 2015. Available at: https://www3.epa.gov/otaq/documents/eng-cert/nrci-cert-ghg-2015.xls.

United States Geological Survey (USGS). 2013. National Elevation Dataset. Available at: http://viewer.nationalmap.gov/viewer/.

TABLES

Table 1
CalEEMod Project Characteristics
McLaren Project
Santa Clara, California

Characteristic	Project Value
Location Scope	County
County	Santa Clara
Climate Zone	4
Operational Year	2022
Utility	Silicon Valley Power
CO_2 Intensity Factor[1]	380
CH_4 Intensity Factor[2]	0.029
N_2O Intensity Factor[2]	0.006
Utility Scenario #2	USEPA eGRID CAMX Subregion[3]
CO_2 Intensity Factor[4]	501.7
CH_4 Intensity Factor[4]	0.024
N_2O Intensity Factor[4]	0.004

Notes:

1. CO_2 Intensity Factor for 2018 onward from Silicon Valley Power projections for the utility mix when coal use is eliminated. Silicon Valley Power will eliminate coal use in 2018.
2. CH_4 and N_2O Intensity Factors are the CalEEMod® default values for PG&E, used here to be conservative.
3. Total CO_2, CH_4, and N_2O emission factors and percentage of electricity from non-hydropower renewables from the USEPA eGRID for the WECC California (CAMX) subregion for 2012, adjusted for operations post-2020. Available at: https://www.epa.gov/sites/production/files/2015-10/egrid2012_data.xlsx. Accessed: November 2016.
4. The emission factors presented here includes 33% projected RPS for 2020 consistent with SB X1-2 and EO S-14-08. See Table 14 for the derivation of these factors.

Abbreviations:

CalEEMod: California Emissions Estimator Model
CO_2: carbon dioxide
CH_4: methane
N_2O: nitrogen dioxide
PG&E: Pacific Gas and Electric

References:

City of Santa Clara. 2013. Climate Action Plan. December 3. Available online at
http://www.santaclaraca.gov/home/showdocument?id=10170
Silicon Valley Power. 2016. News and Announcements, Silicon Valley Power, City of Santa Clara Say No to Coal Power; Power Imports
http://www.siliconvalleypower.com/Home/Components/News/News/

Table 2
CalEEMod Land-Use Inputs
McLaren Project
Santa Clara, California

CalEEMod Run	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	CalEEMod Non-Default Lot Acreage
Construction Phase 1	Industrial	General Light Industry	75	1000sqft	4.64
	Commercial	General Office Building	54	1000sqft	0
Construction Phase 2	Industrial	General Light Industry	61	1000sqft	0
	Commercial	General Office Building	17	1000sqft	0
Construction Phase 3	Industrial	General Light Industry	75	1000sqft	4.34
	Commercial	General Office Building	54	1000sqft	0
Construction Phase 4	Industrial	General Light Industry	61	1000sqft	0
	Commercial	General Office Building	17	1000sqft	0
Operational	Industrial	General Light Industry	271	1000sqft	8.97
	Commercial	General Office Building	142	1000sqft	0
	Parking	Parking Lot	162	spaces	0

RAMBOLL ENVIRON

Table 3
CalEEMod Construction Phasing Inputs
McLaren Project
Santa Clara, California

CalEEMod Run	Phase Number	Phase Name	Phase Type	Phase Start Date	Phase End Date	Num Days Week	Num Days
Construction Phase 1	1	Demolition	Demolition	5/1/2017	7/28/2017	5	65
	2	Site Preparation	Site Preparation	7/28/2017	10/5/2017	5	50
	3	Grading	Grading	10/5/2017	10/23/2017	5	13
	4	Building Construction	Building Construction	10/23/2017	11/20/2018	5	282
	5	Architectural Coating	Architectural Coating	5/1/2018	6/27/2018	5	42
	6	Paving	Paving	6/27/2018	7/27/2018	5	23
	First operational year: 2018						
Construction Phase 2	1	Site Preparation	Site Preparation	8/1/2018	10/9/2018	5	50
	2	Grading	Grading	10/9/2018	10/25/2018	5	13
	3	Building Construction	Building Construction	10/25/2018	11/22/2019	5	282
	4	Architectural Coating	Architectural Coating	6/1/2019	7/30/2019	5	42
	5	Paving	Paving	8/14/2019	9/13/2019	5	23
	First operational year: 2019						
Construction Phase 3	1	Demolition	Demolition	12/1/2019	2/28/2020	5	65
	2	Site Preparation	Site Preparation	3/1/2020	5/8/2020	5	50
	3	Grading	Grading	5/10/2020	5/27/2020	5	13
	4	Building Construction	Building Construction	6/1/2020	6/29/2021	5	282
	5	Architectural Coating	Architectural Coating	12/1/2020	1/27/2021	5	42
	6	Paving	Paving	2/1/2021	3/3/2021	5	23
	First operational year: 2021						
Construction Phase 4	1	Site Preparation	Site Preparation	6/1/2021	8/9/2021	5	50
	2	Grading	Grading	8/9/2021	8/25/2021	5	13
	3	Building Construction	Building Construction	8/25/2021	9/22/2022	5	282
	4	Architectural Coating	Architectural Coating	1/2/2022	3/1/2022	5	42
	5	Paving	Paving	3/14/2022	4/13/2022	5	23
	First operational year: 2022						

Table 4
CalEEMod Construction Equipment List[1]
McLaren project
Santa Clara, California

Equipment List - Phase 1					
Phase	**Equipment**	**Quantity**	**Usage Hours per Day**	**Horsepower**	**Load Factor**
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	3	8	158	0.38
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Rubber Tired Dozers	2	8	247	0.4
Site Preparation	Rubber Tired Dozers	3	8	247	0.4
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	1	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.4
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	3	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Paving	Pavers	1	8	130	0.42
	Paving Equipment	2	6	132	0.36
	Cement and Mortar Mixers	2	6	9	0.56
	Tractors/Loaders/Backhoes	1	8	97	0.37
	Rollers	2	6	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

RAMBOLL ENVIRON

Table 4
CalEEMod Construction Equipment List[1]
McLaren project
Santa Clara, California

Equipment List - Phase 2					
Phase	**Equipment**	**Quantity**	**Usage Hours per Day**	**Horsepower**	**Load Factor**
Site Preparation	Graders	1	8	187	0.41
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Concrete/Industrial Saws	1	8	81	0.73
	Graders	1	6	187	0.41
	Rubber Tired Dozers	1	6	247	0.4
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	1	7	97	0.37
Building Construction	Cranes	1	6	231	0.29
	Forklifts	1	6	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	1	6	97	0.37
	Welders	3	8	46	0.45
Paving	Pavers	1	8	130	0.42
	Paving Equipment	1	6	132	0.36
	Cement and Mortar Mixers	1	6	9	0.56
	Tractors/Loaders/Backhoes	1	8	97	0.37
	Rollers	1	6	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Table 4
CalEEMod Construction Equipment List[1]
McLaren project
Santa Clara, California

Equipment List - Phase 3					
Phase	**Equipment**	**Quantity**	**Usage Hours per Day**	**Horsepower**	**Load Factor**
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	3	8	158	0.38
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Rubber Tired Dozers	2	8	247	0.4
Site Preparation	Rubber Tired Dozers	3	8	247	0.4
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	1	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.4
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	3	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Paving	Pavers	1	8	130	0.42
	Paving Equipment	2	6	132	0.36
	Cement and Mortar Mixers	2	6	9	0.56
	Tractors/Loaders/Backhoes	1	8	97	0.37
	Rollers	2	6	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Table 4
CalEEMod Construction Equipment List[1]
McLaren project
Santa Clara, California

Equipment List - Phase 4					
Phase	**Equipment**	**Quantity**	**Usage Hours per Day**	**Horsepower**	**Load Factor**
Site Preparation	Graders	1	8	187	0.41
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Concrete/Industrial Saws	1	8	81	0.73
	Graders	1	6	187	0.41
	Rubber Tired Dozers	1	6	247	0.4
	Off-Highway Trucks (Water Trucks)	1	8	402	0.38
	Tractors/Loaders/Backhoes	1	7	97	0.37
Building Construction	Cranes	1	6	231	0.29
	Forklifts	1	6	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	1	6	97	0.37
	Welders	3	8	46	0.45
Paving	Pavers	1	8	130	0.42
	Paving Equipment	1	6	132	0.36
	Cement and Mortar Mixers	1	6	9	0.56
	Tractors/Loaders/Backhoes	1	8	97	0.37
	Rollers	1	6	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Notes:

1. The most recent version of CalEEMod (Version 2016.3.1) was used to generate the data shown here.

Table 5
CalEEMod Material Exported and Demolition Inputs
McLaren Project
Santa Clara, California

CalEEMod Material Exported

Construction Phase	Phase Name	Material Exported	Grading Size Metric
Phase 1	Site Preparation	180	Cubic Yards/Day
Phase 3	Site Preparation	180	Cubic Yards/Day

CalEEMod Demolition Inputs

Total existing square feet:

Construction Phase	Parameter	Value
Phase 1	Demolished Square Feet	108,644
Phase 3	Demolished Square Feet	40,012

Table 6
CalEEMod Construction Trip Generation Rates
McLaren project
Santa Clara, California

CalEEMod Run	PhaseName	Worker Trips (trips/day)	Vendor Trips (trips/day)	Hauling Trips (trips)
Phase 1	Demolition	18	0	494
	Site Preparation	20	0	23
	Grading	18	0	0
	Building Construction	76	32	0
	Architectural Coating	15	0	0
	Paving	20	0	0
Phase 2	Site Preparation	8.0	0	0
	Grading	10	0	0
	Building Construction	31	13	0
	Paving	13	0	0
	Architectural Coating	6.0	0	0
Phase 3	Demolition	18	0	182
	Site Preparation	20	0	0
	Grading	18	0	0
	Building Construction	49	21	0
	Paving	20	0	0
	Architectural Coating	10	0	0
Phase 4	Site Preparation	8.0	0	0
	Grading	10	0	0
	Building Construction	31	13	0
	Paving	13	0	0
	Architectural Coating	6.0	0	0

Notes:
1. Trip generation based on CalEEMod 2016.3.1 default values.
2. Demolition only occurs in Phases 1 and 3 so Phases 2 and 4 have no haul trips.

Table 7
Construction Emissions
McLaren Project
Santa Clara, California

Project Construction	**CAP Emissions [lb][1]**			
	ROG	**NOx**	**Exhaust PM_{10}**	**Exhaust $PM_{2.5}$**
Phase 1				
Demolition	334	3,601	167	156
Site Preparation	297	3,120	162	150
Grading	52	570	28	26
Building Construction	916	8,047	449	422
Paving	35	335	19	18
Architectural Coating	1,360	86	6.4	6.4
Total	**2,995**	**15,759**	**832**	**777**
Length of Construction	568			
Average Daily Emissions (lb/day)	**5.3**	**28**	**1.5**	**1.4**
BAAQMD Significance Threshold (lb/day)	54	54	82	54
Phase 2				
Site Preparation	80	905	36	33
Grading	37	382	18	17
Building Construction	707	5,068	269	260
Paving	22	210	12	11
Architectural Coating	826	78	5.4	5.4
Total	**1,670**	**6,643**	**340**	**326**
Length of Construction	478			
Average Daily Emissions (lb/day)	**3.5**	**14**	**0.71**	**0.68**
BAAQMD Significance Threshold (lb/day)	54	54	82	54
Phase 3				
Demolition	270	2,702	127	118
Site Preparation	240	2,439	121	112
Grading	41	426	20	18
Building Construction	636	5,862	298	280
Paving	27	250	13	12
Architectural Coating	1,357	69	4.4	4.4
Total	**2,570**	**11,748**	**583**	**544**
Length of Construction	576			
Average Daily Emissions (lb/day)	**4.5**	**21**	**1.0**	**1.0**
BAAQMD Significance Threshold (lb/day)	54	54	82	54

Table 7
Construction Emissions
McLaren Project
Santa Clara, California

Project Construction	**CAP Emissions [lb][1]**			
	ROG	**NOx**	**Exhaust PM_{10}**	**Exhaust $PM_{2.5}$**
Phase 4				
Site Preparation	64	655	25	23
Grading	30	295	13	12
Building Construction	517	4,011	176	170
Paving	16	154	7.8	7.2
Architectural Coating	823	60	3.5	3.5
Total	**1,450**	**5,174**	**225**	**216**
Length of Construction	478			
Average Daily Emissions (lb/day)	**3.0**	**11**	**0.47**	**0.45**
BAAQMD Significance Threshold (lb/day)	54	54	82	54
Construction GHG Emissions (MT CO_2e/project)	2,539 MT CO_2e/project			

Notes:

1. Emissions estimated using CalEEMod version 2016.3.1.

Abbreviations:

CalEEMod: California Emissions Estimator Model
lb - pounds
NOx - nitrogen oxides
ROG - reactive organic gases
$PM_{2.5}$ - particulate matter < 2.5 μm
PM_{10} - particulate matter < 10 μm
BAAQMD - Bay Area Air Quality District
CAP - Criteria Air Pollutants

Table 8
Engine Emission Factors
McLaren Project
Santa Clara, California

Generator Information

Make	Caterpillar
Model	C175-16
USEPA Tier	2
USEPA Engine Family	FCPXL106.NZS
Generator Output at 100% Load (kilowatt)	3,000
Engine Output at 100% Load (horsepower)	4,423

Control Efficiency (DPF) Information

Make	Johnson Matthey
Model	CRT® Particulate Filter System

Pollutant	USEPA Certification Uncontrolled Emission Factors[2,4] (g/hp-hr)	Control Efficiency at 100% Load	USEPA Certification Controlled Emission Factors[3,4] (g/hp-hr)
NMHC	0.16	70%	0.05
NOx	4.2	0%	4.17
NMHC+NOx	4.3	0%	4.33
CO	1.3	80%	0.25
PM	0.067	85%	0.01
$PM_{2.5}$	0.067	85%	0.01
SO_2	0.0055	0%	0.01
CO_2[5]	522	0%	521.63
CH_4[6]	0.021	0%	0.02
N_2O[6]	0.004	0%	0.0042
CO_2e[1]	523	0%	523.37

Notes:

1. Global warming potential values of 1 for CO_2, 21 for CH_4, and 310 for N_2O from 40 CFR Part 98 Table A-1 (2011 version) as referenced in the CA MRR, were used to convert emissions to metric tones of carbon dioxide equivalents in accordance with 40 CFR Part 98.2.
2. Uncontrolled Emission Factors are from USEPA Engine Family Certification
3. Controlled Emission Factors are the 100% Load emission factors from the USEPA Engine Family Certification with reductions assuming a Johnson Matthey CRT® Particulate Filter System on each engine.
4. USEPA Engine Family Certification emission factors are in units of g/kW-hr, which were converted to units of g/hp-hr by using a conversion of 0.7457 kW/hp. Emission factors for methane and nitrous oxide were not provided and were assumed to be zero.
5. Emissions factor from AP-42, Vol. I, Section 3.3, Table 3.3-1 for Uncontrolled Gasoline and Diesel Industrial Engines.
6. Emissions factors from 40 CFR 98, Subpart C, Table C-2. Petroleum emissions listed as 3 g CH_4/mmBtu and 0.6 g N_2O/mmBtu. Assumed conversion factor of 7000 Btu/hp-hr per AP-42 Vol I, Table 3.3-1.

Abbreviations:

CH_4: methane	hr: hour
CO: carbon monoside	N_2O: nitrous oxide
CO_2: carbon dioxide	NMHC: Non-methane hydrocarbon
CO_2e: carbon dioxide equivalents	NOx: oxides of nitrogen
g: gram	PM: Particulate Matter
hp: horsepower	USEPA: United States Environmental Protection Agency

References:

Peterson Power Systems. 2015. Manufacturer's Performance Data for Model C175-16.

Johnson Matthey Proposal No. GR-394 to Peterson

USEPA. 2015. Large Engine Certification Data for Model Year 2015. Available at: https://www3.epa.gov/otaq/documents/eng-cert/nrci-cert-ghg-2015.xls.

Table 9
Controlled Engine Emissions, Daily
McLaren Project
Santa Clara, California

Controlled	Controlled Emissions by Pollutant				
	Quantity of Engines	**Operational Hours per Engine per Year**	**Pollutant**	**Average Daily Emissions (lb/day)**	**CEQA Threshold (lb/day)**
USEPA Certification	**32**	**50**	NMHC	2.10	54
			NOx	178.18	54
			CO	10.84	-
			PM_{10}	0.43	82
			$PM_{2.5}$	0.43	54

Notes:

1. Emission factors for PM10 and PM2.5 are conservatively assumed to be equal to the PM emission factor, and are multiplied by (100% - 85%) to account for the proposed DPF (Johnson Matthey), which has a minimum PM abatement efficiency of 85%.
2. Controlled Emission Factors are the 100% Load emission factors from the USEPA Engine Family Certification with reductions assuming a Johnson Matthey CRT® Particulate Filter System on each engine.

Abbreviations:

CH_4: methane
CO: carbon monoside
CO_2: carbon dioxide
CO_2e: carbon dioxide equivalents
N_2O: nitrous oxide
NMHC: Non-methane hydrocarbon
NOx: oxides of nitrogen
PM: Particulate Matter
USEPA: United States Environmental Protection Agency

References:

Peterson Power Systems. 2015. Manufacturer's Performance Data for Model C175-16.
Johnson Matthey Proposal No. GR-394 to Peterson
USEPA. 2015. Large Engine Certification Data for Model Year 2015. Available at: https://www3.epa.gov/otaq/documents/eng-cert/nrci-cert-ghg-2015.xls.

Conversion Factors

1 lb = 453.59 g

Table 10
Controlled Engine Emissions, Annual
McLaren Project
Santa Clara, California

Operational Scenario	Controlled Emissions by Pollutant (tons/yr)					
	Quantity of Engines	Operational Hours per Engine per Year	Pollutant	Emission Rate per Engine (lb/hr)	Average Annual Emissions (ton/year)	CEQA Threshold (ton/year or MT/yr for CO_2e)
USEPA Certification	**32**	**50**	NMHC	0.48	0.38	10
			NOx	41	33	10
			CO	2.5	2.0	-
			PM_{10}	0.10	0.079	15
			$PM_{2.5}$	0.10	0.079	10

Notes:

1. Emission factors for PM10 and PM2.5 are conservatively based on the PM emission factor, and are multiplied by (100% - 85%) to account for the proposed DPF (Johnson Matthey), which is certified by ARB as a level-3 DPF with the minimum PM abatement efficiency of 85%.
2. Controlled Emission Factors are the 100% Load emission factors from the USEPA Engine Family Certification with reductions assuming a Johnson Matthey CRT® Particulate Filter System on each engine.
3. Uncontrolled Emission Factors are from Manufacturer's Performance Data for Model C175-16.

Abbreviations:

ARB: California Air Resources Board
CEQA: California Environmental Quality Act
CO: carbon monoside
CO_2e: carbon dioxide equivalents
DPF: Diesel Particulate Filter
hr: hour
lb: pound
MT: metric tonnes
NMHC: Non-methane hydrocarbon
NOx: oxides of nitrogen
PM_{10}: respirable particulate matter
$PM_{2.5}$: fine particulate matter
ROG: reactive organic gas
SO_2: sulfur dioxide
USEPA: United States Environmental Protection Agency
VOC: volatile organic compound
yr: year

References:

Peterson Power Systems. 2015. Manufacturer's Performance Data for Model C175-16.
Johnson Matthey Proposal No. GR-394 to Peterson
USEPA. 2015. Large Engine Certification Data for Model Year 2015. Available at: https://www3.epa.gov/otaq/documents/eng-cert/nrci-cert-ghg-2015.xls.

Conversion Factors

1 lb =	453.59 g
1 lb =	0.0005 ton
1 lb =	0.00045359 MT

Table 11
Title 24 Adjustments to Energy Use Rates
McLaren Project
Santa Clara, California

2013 Title 24 Energy Use Rates[3]

Venue	CalEEMod® Venue Subtype	Size Metric	Title-24 Electricity (KWhr/size/yr)	Non Title-24 Electricity (KWhr/size/yr)	Lighting Energy Intensity (KWhr/size/yr)	Title-24 Natural Gas (KBTU/size/yr)	Non-Title-24 Natural Gas (KBTU/size/yr)
Industrial	General Light Industry	SF	1.6	3.7	3.2	19.81	6.67
Commercial	General Office Building	SF	6.4	7.8	4.0	16.39	0.06
Parking Above Grade	Parking Lot	SF	0.0	0.0	0.0	0	0.0

Notes:

3. Title 24 energy uses adjusted to reflect 2016 Title 24 building energy efficiency standards.

Table 11
Title 24 Adjustments to Energy Use Rates
McLaren Project
Santa Clara, California

2016 Title 24 Adjustment Factors[4]

Type	Electricity	Natural Gas
Nonresidential	5%	5%

Notes:
4. From CEC 2013.

2016 Title 24 Energy Use Rates[5]

Venue	CalEEMod® Venue Subtype	Size Metric	Title-24 Electricity (kWhr/size/yr)	Non Title-24 Electricity (kWhr/size/yr)	Lighting Energy Intensity (kWhr/size/yr)	Title-24 Natural Gas (kBTU/size/yr)	Non-Title-24 Natural Gas (kBTU/size/yr)
Industrial	General Light Industry	SF	1.47	3.7	3.17	18.82	6.67
Commercial	General Office Building	SF	6.08	7.8	3.98	15.57	0.06
Parking Above Grade	Parking Lot	SF	0.0	0.0	0.00	0	0.0

Notes:
5. Title 24 energy uses adjusted to reflect 2016 Title 24 building energy efficiency standards.

Abbreviations:
CalEEMod: California Emissions Estimator Model
CEC: California Energy Commission
kBTU: one thousand British Thermal Units
kWhr: kilowatt hour
yr: year

References:
CEC. 2013. Impact Analysis. California's 2013 Building Energy Efficiency Standards.
Available online at http://www.energy.ca.gov/2013publications/CEC-400-2013-008/CEC-400-2013-008.pdf?_sm_au_=iVVRz3FV2dMBFjr2

CalEEMod. Available online at http://www.caleemod.com/

Table 12
Energy Usage for Project Operations
McLaren Project
Santa Clara, California

Energy Usage - Project Operational

Source	CalEEMod® Venue Subtype	Size	Electricity Use Rate[1] (kWh/unit-yr)	Annual Electricity Use (MWh/yr)	Natural Gas Use Rate[2] (kBTU/unit-yr)	Annual Natural Gas Use (therm/yr)
Industrial	General Light Industry	271,000 SF	8.3	2,261	25	69,077
Commercial	General Office Building	142,000 SF	17.9	2,542	16	22,195
Data Center	N/A	N/A	N/A	665,760	0	0
Parking Above Grade	Parking Lot	162	0	0	0	0

Notes:
1. Electricity Use Rate is the sum of Title 24 and non-Title 24 electricity uses plus Lighting electricity use.
2. Natural Gas Use Rate is the sum of Title 24 and non-Title 24 natural gas uses.

Abbreviations:
CalEEMod: California Emissions Estimator Model
kBTU: one thousand British Thermal Units
kWh: kilowatt hour
MWh: megawatt hour
N/A: not applicable
SF: square feet
therm: heat energy equal to 100,000 British Thermal Units
yr: year

Table 13
Energy Use Emissions, Project Operational
McLaren Project
Santa Clara, California

Venue	CalEEMod Venue Subtype	ROG (tons/year)	NOx (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)	SVP CO_2e[1] (MT CO_2e/yr)	CAMX CO_2e[1] (MT CO_2e/yr)
Industrial	General Light Industry	0.037	0.34	0.026	0.026	763	888
Commercial	General Office Building	0.012	0.11	0.0083	0.0083	560	700
Data Center	N/A	N/A	N/A	N/A	N/A	115,515	152,262
Parking Above Grade	Parking Lot	0	0	0	0	0	0
	Project Subtotal	**0.05**	**0.4**	**0.03**	**0.03**	**116,839**	**153,850**

Notes:

[1.] GHG emissions from the data center use the carbon intensities for Silicon Valley Power and CAMX in Table 1.

Abbreviations:

CAMX: eGRID subregion name for California
CO_2e: carbon dioxide equivalents
GHG: greenhouse gas
N/A: not applicable
NOx: nitrogen oxides
PM_{10}: respirable particulate matter
$PM_{2.5}$: fine particulate matter
ROG: reactive organic gas
SVP: Silcon Valley Power

Table 14

eGRID GHG Emission Factors

McLaren Project

Santa Clara, CA

	CAMX 2012[1]	Units
CO_2 Intensity Factor per Total Energy Delivered	650.31	lbs CO_2/MWh delivered
% of Total Energy From Renewables	13%	
CO_2 Intensity Factor per Total Non-Renewable Energy[2]	749	lbs CO_2/MWh delivered
CH_4 Intensity Factor per Total Energy Delivered	0.031	lbs CH_4/MWh delivered
% of Total Energy From Renewables	13%	
CH_4 Intensity Factor per Total Non-Renewable Energy[2]	0.036	lbs CH_4/MWh delivered
N_2O Intensity Factor per Total Energy Delivered	0.006	lbs N_2O/MWh delivered
% of Total Energy From Renewables	13%	
N_2O Intensity Factor per Total Non-Renewable Energy[2]	0.007	lbs N_2O/MWh delivered
Estimated Intensity Factor for Total Energy Delivered[3]		
CO_2 Intensity Factor for 2020 RPS (33%)	**501.7**	lbs CO_2/MWh delivered
CH_4 Intensity Factor for 2020 RPS (33%)	**0.024**	lbs CH_4/MWh delivered
N_2O Intensity Factor for 2020 RPS (33%)	**0.004**	lbs N_2O/MWh delivered

Notes:

[1] Total CO_2, CH_4, and N_2O emission factors and percentage of electricity from non-hydropower renewables from the

[2] The emissions metric presented here is calculated based on the total CO_2, CH_4, or N_2O intensity factor divided by

[3] The intensity factor for total energy delivered is estimated by multiplying the percentage of energy delivered from

Abbreviations:

CAMX - eGRID subregion name for California

CO_2 - carbon dioxide

GHG - greenhouse gases

lbs - pounds

MWh - megawatt-hour

RPS - Renewable Portfolio Standards

PGE - Pacific Gas & Electric

SB - Senate Bill

USEPA - US Environmental Protection Agency

WECC - Western Electricity Coordinating Council

Table 15
Operational Mass Emissions of Criteria Air Pollutants
McLaren Project
Santa Clara, California

Emissions Source	CAP Emissions[1] [ton/year]				CAP Emissions[1] [lb/day]			
	ROG	NO_x	PM_{10} Total	$PM_{2.5}$ Total	ROG	NO_x	PM_{10} Total	$PM_{2.5}$ Total
Architectural Coating	0.22	-	-	-	1.18	-	-	-
Consumer Products	1.62	-	-	-	8.86	-	-	-
Landscaping	4.9E-04	5.0E-05	2.0E-05	2.0E-05	2.7E-03	2.7E-04	1.1E-04	1.1E-04
Building Energy Use	0.05	0.45	0.03	0.03	0.27	2.45	0.19	0.19
On-Road Fugitive Dust	-	-	0.45	0.12	-	-	2	1
On-Road Exhaust	0.13	0.60	0.01	0.01	0.73	3.29	0.03	0.03
Emergency Generators	0.38	32.52	0.08	0.08	2.10	178.18	0.43	0.43
BAAQMD Stationary Source Offsets	-	-32.52	-	-	-	-178.18	-	-
Total Project Emissions	**2**	**1**	**1**	**0**	**13**	**6**	**3**	**1**
BAAQMD Significance Threshold	10	10	15	10	54	54	82	54

Notes:

1. Emissions estimated usingCalEEMod version 2016.3.1.

Abbreviations:

BAAQMD: Bay Area Air Quality Management District
CalEEMod: California Emissions Estimator Model
CAP: Criteria Air Pollutant
lb: pounds
NOx: nitrogen oxides
ROG: reactive organic gases
$PM_{2.5}$ - particulate matter < 2.5 μm
PM_{10} - particulate matter < 10 μm

References:

CalEEMod® 2016.3.1 Available Online at: http://www.caleemod.com

RAMBOLL ENVIRON

Table 16
Operational Mass Emissions of Greenhouse Gases
McLaren Project
Santa Clara, California

Emissions Source	GHG Emissions[1,2]		Units
	SVP	**CAMX**	
Landscaping	0.0110	0.0110	MT CO_2e/yr
Building Energy Use	1,333	1,600	
Data Center Energy Use	115,515	152,262	
Water Use	377	426	
Waste Disposed	235	235	
On-Road Exhaust	435	435	
Total	**117,896**	**154,958**	MT CO_2e/yr
BAAQMD Significance Threshold	**1,100**	**1,100**	
Service Population - Proposed Project	29		SP
Emissions per Service Population	4,065.4	5,343.4	MT CO_2e/SP/yr
BAAQMD Land Use Significance Threshold	**4.6**	**4.6**	

Emissions Source	GHG Emissions[1]	Units
Emergency Generators	4,138	MT CO_2e/yr
BAAQMD Stationary Source Threshold	**10,000**	

Notes:

1. Emissions estimated using CalEEMod® version 2016.3.1.
2. Two utility scenarios are presented using their respective carbon intensities: Silicon Valley Power (SVP) and grid average from the USEPA eGRID database for the WECC California (CAMX) subregion. Details regarding carbon intensities can be found in Table 1 and Table 14.

Abbreviations:

BAAQMD: Bay Area Air Quality Management District
CAMX - eGRID subregion name for California
CalEEMod: California Emissions Estimator Model
CO_2e: carbon dioxide equivalent
GHG: greenhouse gas
MT: metric ton
SP: service population
yr: year

References:

CalEEMod® 2016.3.1 Available Online at: http://www.caleemod.com

Table 17
Year-By-Year Emissions During Simultaneous Construction and Operation
McLaren Project
Santa Clara, California

Emissions Source		Project Emissions by Year				
		ROG (tpy)	Nox (tpy)	Exhaust PM_{10} (tpy)	Exhaust $PM_{2.5}$ (tpy)	CO_2e (MT/yr)
2017	Construction Phase 1	0.43	4.4	0.22	0.21	428
2018	Construction Phase 1	1.1	3.4	0.19	0.18	469
	Construction Phase 2	0.125	1.11	0.053	0.050	133
	Operational - Phase 1[1]	0.9	0.3	0.012	0.012	0,841
2019	Construction Phase 2	0.71	2.2	0.117	0.113	302
	Construction Phase 3	0.048	0.48	0.023	0.021	55
	Operational - Phases 1 & 2[1]	1.3	0.4	0.019	0.019	1,376
2020	Construction Phase 3	0.78	4.0	0.20	0.19	499
	Operational - Phases 1 & 2[1]	1.3	0.4	0.019	0.019	1,376
2021	Construction Phase 3	0.46	1.4	0.069	0.065	228
	Construction Phase 4	0.14	1.17	0.051	0.048	182
	Operational - Phases 1, 2 & 3[1]	1.9	0.6	0.031	0.030	2,196
2022	Construction Phase 4	0.59	1.41	0.062	0.059	243
	Full Operational	2.4	1.05	0.12	0.12	122,453

Totals By Year					
2017	0.43	4.4	0.22	0.21	428
2018	2.1	4.8	0.26	0.24	1,443
2019	2.1	3.1	0.16	0.15	1,734
2020	2.1	4.4	0.22	0.20	1,876
2021	2.5	3.2	0.15	0.14	2,606
2022	3.0	2.5	0.18	0.18	122,696
Operation Only	2.4	1.0	0.12	0.12	122,453
BAAQMD Threshold	10	10	15	10	1,100

Notes:

1. Emissions shown here represent a full year of operation, although operations may not begin until construction of a phase is complete. This is a conservative overestimate of emissions for each calendar year.

Abbreviations

CAP: Criteria Air Pollutants
CO_2e: carbon dioxide equivalents
NOx: nitrogen oxides
PM_{10}: respirable particulate matter
$PM_{2.5}$: fine particulate matter
ROG: Reactive Organc Gas

Table 18
Modeling Parameters
McLaren Project
Santa Clara, California

Period	Source	Source Type[1]	Source Dimension (m)	Number of Sources[2]	Release Height[3] (m)	Exit Temperature (K)	Exit Velocity (m/s)	Exit Diameter (m)	Initial Vertical Dimension[4] (m)	Initial Lateral Dimension (m)
Construction	Construction Equipment and Trucks On-Site	Area	Project Area	4	5				1.4	
	On-Road Trucks	Adjacent Volume	Variable (Width of roadway + 3m on either side)	47	4.57				1.06	Variable (Width/2.15)
Operation	Back-Up Generators[5]	Point	-	32	3.66 for single, 7.92 for stacked	750.9	57	0.51		

Notes:
1. Construction sources are modeled as area sources across the project site. (SF CRRP)
2. The number of sources covering the construction area and related roadways will be determined based on the geometry of the project and the truck routes. Roadways will be modeled out to 1,000 feet from the Project boundary.
3. Release height for on-site construction activities is based on guidance from the SF CRRP.
4. Release parameters for on-road construction traffic are from the ARB Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (2000).
5. Thirty two identical generators will be installed at the Project site. Actual stack locations are unknown so they were assumed to be one third from the outside edge of the generator. Single generator stacks were assumed to be 12 feet and stacked/overlaid generators were assumed at two heights - 12 feet for the bottom generators and 26 feet for the top generator.

Abbreviations:

ARB: California Air Resources board
CRRP: Community Risk Reduction Plan
DPF: Diesel Particulate Filter
K: Kelvin
m: meter
s: second
SF: San Francisco

References:

ARB. 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.
Available online at: http://www.arb.ca.gov/diesel/documents/rrpapp.htm

Bay Area Air Quality Management District, San Francisco Department of Public health, San Francisco Planning Department (SF CRRP). 2012. The San Francisco Community Risk Reduction Plan: Technical Support Documentation. December.
Available online at: http://www.gsweventcenter.com/Appeal_Response_References%5C2012_1201_BAAQMD.pdf

Table 19
Exposure Parameters, 2015 OEHHA Methodology
McLaren Project
Santa Clara, California

Period	Receptor Type	Receptor Age Group	Exposure Parameters						
			Daily Breathing Rate (DBR)[1] (Resident: L/kg-day, Soccer Child L/kg-hr)	Exposure Duration (ED)[2] (years)	Fraction of Time at Home (FAH)[3] (unitless)	Exposure Frequency (EF)[4] (days/year)	Averaging Time (AT) (days)	Modeling Adjustment Factor (MAF) (unitless)	Intake Factor, Inhalation (IF_{inh}) (m^3/kg-day)
Construction	Offsite Resident	3rd Trimester	361	0.25	1	350	25,550	1	0.0012
		Age 0-<2 Years	1,090	2	1	350	25,550	1	0.030
		Age 2-<9 Years	631	3.75	1	350	25,550	1	0.032
	Soccer Child	Age 2-<9 Years[5]	80	6	N/A	52	25,550	2.7	0.0026
Operation	Offsite Resident	3rd Trimester	361	0.25	1	350	25,550	1	0.0012
		Age 0-<2 Years	1,090	2	1	350	25,550	1	0.030
		Age 2-<16 Years	572	14	1	350	25,550	1	0.11
		Age 16-30 Years	261	14	1	350	25,550	1	0.050
	Soccer Child	Age 2-<16 Years	65	14	N/A	52	25,550	1	0.0019
		Age 16-30 Years[5]	30	16	N/A	52	25,550	1	9.8E-04

Notes:

1. Daily breathing rates reflect default breathing rates from OEHHA 2015 as follows: Resident: 95th percentile for 3rd trimester and age 0-<2 years; 80th percentile for ages 2-<9 years, 2-<16 years, and 16-30 years. Soccer Child: 95th percentile moderate intensity for all ages.
2. The total exposure duration for construction reflects the actual proposed construction schedule; the total exposure duration for operation reflects the default residential exposure duration from Cal/EPA 2015.
3. Fraction of time at home (FAH) was conservatively assumed to be 1 for all age groups for residential exposure. FAH is not applicable to recreational soccer receptors.
4. Exposure frequency reflects default exposure frequency for residents from Cal/EPA 2015. For Soccer Child receptors, it was assumed that children would attend the soccer facility once a week for 52 weeks.
5. Exposure for children using the soccer facility was assumed to start at age 2 since children younger than 2 cannot participate in the activities at this facility. For operational exposures, 30-year exposure was evaluated starting at age 2 and the 16-30 year breathing rate was assumed for ages 16-32.

Calculation:

Resident:

IF_{inh} = DBR * ED * FAH * EF * CF / AT

CF = 0.001 (m^3/L)

Abbreviations:

Cal/EPA: California Environmental Protection Agency
L: liter
kg: kilogram
m^3: cubic meter

Reference:

Cal/EPA. 2015. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment (OEHHA). February.

Available online at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

Table 20
Speciation Values
McLaren Project
Santa Clara, California

Source	Emission Type	Fraction	Chemical[1]
Diesel Offroad Equipment (Construction and Generators)	**Exhaust PM**	1	Diesel PM
	Exhaust TOG	0.0019	1,3-Butadiene
		0.0735	Acetaldehyde
		0.02	Benzene
		0.0031	Ethylbenzene
		0.1471	Formaldehyde
		0.0016	n-Hexane
		0.0003	Methanol
		0.0148	Methyl Ethyl Ketone
		0.0009	Naphthalene
		0.026	Propylene
		0.0006	Styrene
		0.0147	Toluene
		0.0061	m-Xylene
		0.0034	o-Xylene
		0.001	p-Xylene
Diesel Roadway Traffic	**Exhaust PM**	1	Diesel PM
	Exhaust TOG	0.15942	Acetaldehyde
		0.01045	Benzene
		0.08505	Formaldehyde
		0.02860	Methyl Ethyl Ketone
		0.01518	Toluene
		0.00317	o-Xylene
		0.00889	m- & p-Xylenes
Gasoline Roadway Traffic	**Exhaust TOG**	0.0055	1,3-Butadiene
		0.0028	Acetaldehyde
		0.0013	Acrolein
		0.0247	Benzene
		0.0105	Ethylbenzene
		0.0158	Formaldehyde
		0.016	Hexane
		0.0012	Methanol
		0.0002	Methyl Ethyl Ketone
		0.0005	Naphthalene
		0.0306	Propylene
		0.0012	Styrene
		0.0576	Toluene
		0.048	Xylenes

RAMBOLL ENVIRON

Table 20
Speciation Values
McLaren Project
Santa Clara, California

Note:

1. Compounds presented in this table are only those air toxic contaminants with toxicity values from Cal/EPA (2015) evaluated in the health risk assessment. Speciation profiles presented in this table are from the following sources:

    Diesel offroad exhaust, TOG: ARB 818 / EPA 3161
    Diesel onroad exhaust, TOG: EPA 4674
    Gasoline onroad exhaust, TOG: BAAQMD 5/2011 Guidance

Abbreviations:

ARB: Air Resources Board
BAAQMD: Bay Area Air Quality Management District
Cal/EPA: California Environmental Protection Agency
PM: particulate matter
TOG: total organic gas
USEPA: United States Environmental Protection Agency

References:

ARB. Speciation Profiles Used in ARB Modeling. Available online at: http://www.arb.ca.gov/ei/speciate/speciate.htm#specprof

BAAQMD. 2011. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Cal/EPA. 2015. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. May 13.

USEPA. SPECIATE 4.3. Available online at: http://cfpub.epa.gov/si/speciate/

Table 21
Toxicity Values
McLaren Project
Santa Clara, California

Chemical[1]	Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$	Chronic REL ($\mu g/m^3$)	Acute REL ($\mu g/m^3$)
Diesel PM	1.1	5	-
Acetaldehyde	0.01	140	470
Benzene	0.1	3	27
1,3-Butadiene	0.6	2	660
Chlorine	-	0.2	210
Copper	-	-	100
Ethylbenzene	0.0087	2,000	-
Formaldehyde	0.021	9	55
n-Hexane	-	7,000	-
Manganese	-	0.09	-
Methanol	-	4,000	28,000
Methyl Ethyl Ketone	-	-	13,000
Naphthalene	0.12	9	-
Propylene	-	3,000	-
Styrene	-	900	21,000
Toluene	-	300	37,000
Xylenes	-	700	22,000

Note:

1. Chemicals presented in this table reflect air toxic contaminants in the proposed fuel types that are expected from off-road equipment, on-road truck trips, automobile traffic, and propane generators.

Abbreviations:

-: not available or not applicable
$\mu g/m^3$: micrograms per cubic meter
ARB: Air Resources Board
Cal/EPA: California Environmental Protection Agency
$(mg/kg\text{-}day)^{-1}$: per milligram per kilogram-day
OEHHA: Office of Environmental Health Hazard Assessment
PM: particulate matter
REL: reference exposure level

Reference:

Cal/EPA. 2015. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. May 13.

Table 22
Age Sensitivity Factors
McLaren Project
Santa Clara, California

Receptor Age Group	Age Sensitivity Factor[1] (ASF)
3rd Trimester	10
Age 0-<2 Years	10
Age 2-<16 Years	3
Age 16-30 Years	1

Note:

1. Based on Cal/EPA 2015.

Abbreviation:

Cal/EPA: California Environmental Protection Agency

References:

Cal/EPA. 2015. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment (OEHHA). February.

Available online at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

Table 23
Carbon Monoxide Analysis
McLaren Project
Santa Clara, California

Averaging Period	Maximum Dispersion Factor	Number of Generators	CO Emission Rate	Concentration
	$\frac{\mu g/m^3}{g/s}$	gens	$\frac{lb/hr}{gen}$	ppm
1-hr	1,348	32	2.5	12
8-hr	779			6.8

Notes:

1. This concentration reflects the highest modeled concentration for the respective averageing periods.

Abbreviations:

CO - carbon monoxide
gen - generator
μg/m3 - microgram per meter cubed
g/s - gram per second
lb - pound
hr - hour
ppm - parts per million

Table 24
Concentrations at the Construction and Operational MEISRs
McLaren Project
Santa Clara, California

Pollutant	Construction[3]	Generators[3]
Annual Concentration ($\mu g/m^3$)[1]		
Diesel PM	0.010	3.9E-04
$PM_{2.5}$	0.012	3.9E-04
1-hr Concentration ($\mu g/m^3$)[2]		
1,3-butadiene	0.10	0.24
acetaldehyde	4.0	9.4
Acrolein	6.4E-05	--
benzene	1.1	2.5
ethylbenzene	0.17	0.39
formaldehyde	8.1	19
n-hexane	0.088	0.20
methanol	0.016	0.038
methyl ethyl ketone (mek) (2-butanone)	0.81	1.9
naphthalene	0.049	0.11
o-xylene	0.19	0.43
propene	1.4	3.3
styrene	0.033	0.076
toluene	0.81	1.9
Xylenes	0.58	0.90

Notes:

1. Maximum annual emissions were reported for the scenario receptors with the highest cancer risk, chronic HI, and $PM_{2.5}$ concentration (Annual MEISRs).

2. Maximum one hour emissions were reported for the scenario receptors with the highest Acute HI (Acute MEISRs).

3. The table below lists the 4 MEISR locations:

		UTMx	UTMy
Construction			
	Annual	593050	4135575
	1-hr	593225	4135650
Generators			
	Annual	593075	4135550
	1-hr	593225	4135625

Abbreviations:

HI: health index
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: fine particulate matter
UTM: Universal Transverse Mercator coordinate system
$\mu g/m^3$: micrograms per cubic meter
hr: hour
m: meter

Table 25
Construction Health Risk Impacts to the MEISR
McLaren Project
Santa Clara, California

Emission Source	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Project Construction Total	**3.54**	**0.0021**	**0.20**	**0.012**
BAAQMD Significance Threshold	10	1	1	0.3

Notes:

1. The cancer risk MEISR is located at UTM coordinates: UTMx = 593050, UTMy = 4135575
2. The chronic HI and annual PM2.5 MEISR is located at UTM coordinates: UTMx = 593050, UTMy = 4135575
3. The acute HI MEISR is located at UTM coordinates: UTMx = 593225, UTMy = 4135650

Abbreviations:

BAAQMD: Bay Area Air Quality Management District
HI: health index
HI: health index
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: fine particulate matter
UTM: Universal Transverse Mercator coordinate system
$\mu g/m^3$: micrograms per cubic meter

Table 26
Project-Related Operational Health Risk Impacts to the MEISR
McLaren Project
Santa Clara, California

Emission Source	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Mobile	0.4	--	--	0.01
Emergency Generators	0.3	0.000079	0.67	0.00039
Project Operational Total	0.7	0.000079	0.67	0.007
BAAQMD Significance Threshold	10	1	1	0.3

Notes:

1. The cancer risk, chronic HI, and annual PM2.5 MEISR is located at UTM coordinates: UTMx = 593075, UTMy = 4135550
2. The acute HI MEISR is located at UTM coordinates: UTMx = 593225, UTMy = 4135625

Abbreviations:

BAAQMD: Bay Area Air Quality Management District
HI: health index
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: fine particulate matter
UTM: Universal Transverse Mercator coordinate system
$\mu g/m^3$: micrograms per cubic meter

Table 27
Summary of Cumulative Health Risk Impacts to the MEISR
McLaren Project
Santa Clara, California

Emission Source	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index	Annual $PM_{2.5}$ Concentration (ug/m^3)
Project Construction	3.54	0.0021	0.20	0.012
Project Operational Traffic	0.4	--	--	0.006
Project Operational Generators	0.3	0	1	3.9E-04
Subtotal, Project Impacts	4.25	0.0021	0.86	0.018
Existing Stationary Sources				
M's Refinishing (Facility #5269)	1.63	0.06	N/A	0
Bay Area Surgical Group (Facility #16964)	2.72	0.001	N/A	0.001
Microsoft Corporation (Facility #19686)	11	0.008	N/A	0.033
FMG Enterprises Inc (Facility #4400)	0.03	0	N/A	0
Memorex Dirve LLC (Facility #10299)	2.43	0.006	N/A	0
Mission Trail Waste Systems (Facility #8313)	0.43	0.003	N/A	29.5
Process Stainless Lab, Inc (Facility #17041)	0	0	N/A	0
Vivid Inc (Facility #11467)	0	0	N/A	0.037
Byington Steel Treating, Inc (Facility #4712)	0	0	N/A	0
West Coast Vanities (Facility #15355)	0	0	N/A	0
AMCO Auto Body & Painting (Facility #16494)	0	0	N/A	0
HGM (Facility #14667)	0	0	N/A	0
Choice Auto Body (Facility #17000)	0	0	N/A	0
Lafayette Street	1.60	NA	NA	0.033
Subtotal, Background Sources	19.4	0.08	0.00	29.6
Total Cumulative Impact	**24**	**0.08**	**0.9**	**29.6**
BAAQMD Significance Threshold	100	10	10	0.8

Notes:

1. The existing residential locations experiencing maximum project impacts are presented in the previous two tables.

Abbreviations:

BAAQMD: Bay Area Air Quality Management District
HI: health index
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: fine particulate matter
ug/m^3: micrograms per cubic meter
UTM: Universal Transverse Mercator coordinate system

FIGURES

RAMBOLL ENVIRON

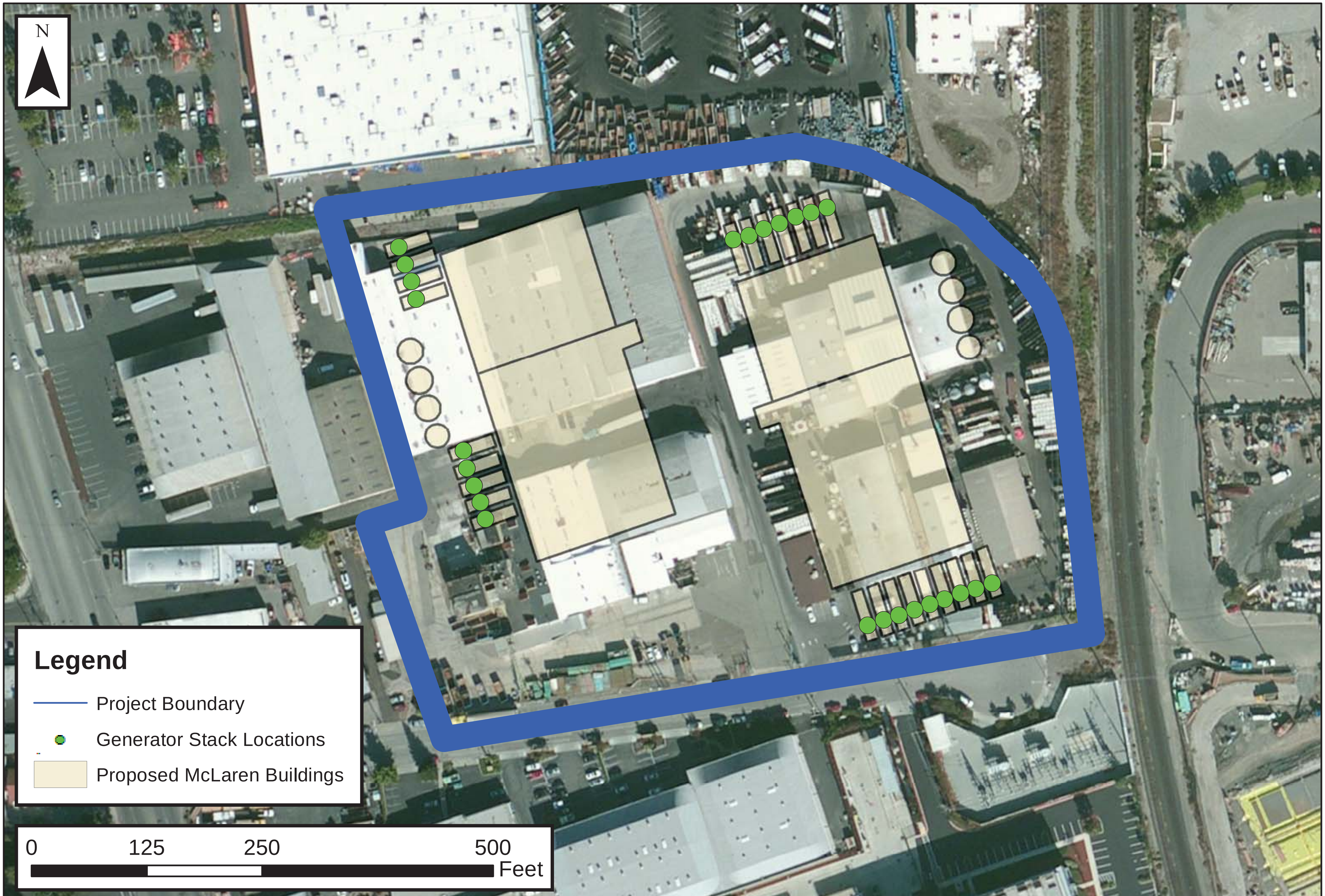
Project Boundary
McLaren Project
Santa Clara, California

Figure
1

RAMBOLL ENVIRON

Construction Sources
McLaren Project
Santa Clara, California

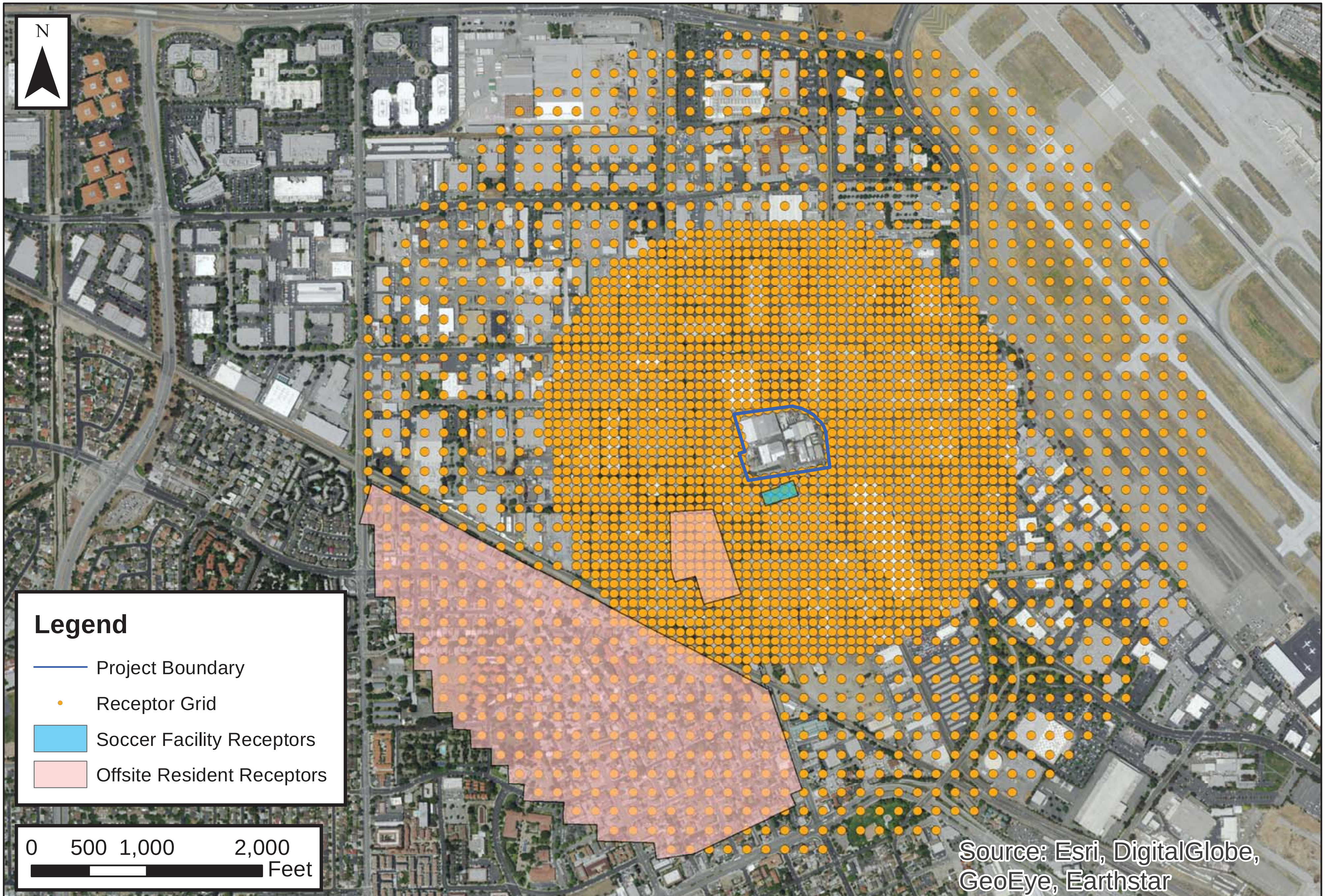
Figure
2



RAMBØLL ENVIRON

Generator Locations
McLaren Project
Santa Clara, California

Figure
3



RAMBOLL ENVIRON

Receptor Grid
McLaren Project
Santa Clara, California

Figure
4

APPENDIX A
CalEEMod® Construction and Operational Emissions Outputs

McLaren Phase 1

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	54.00	1000sqft	0.00	54,000.00	0
General Light Industry	75.00	1000sqft	4.64	75,000.00	0
Parking Lot	162.00	Space	0.00	64,800.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 58

Climate Zone 4 **Operational Year** 2018

Utility Company User Defined

CO2 Intensity (lb/MWhr) 380 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Utility Company is Silicon Valley Power. Using PG&E CH4 and N2O intensity factors to be conservative.

Land Use - provided landuse

Construction Phase - provided schedule

Off-road Equipment -

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Trips and VMT - provided info

Demolition - provided equipment info

Grading - provided info

Architectural Coating - provided info

Vehicle Trips - project-specific data

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - Adjusted for 2016 Title 24.

Water And Wastewater - Project-specific data.

Solid Waste -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Fleet Mix -

McLaren Phase 1 - Santa Clara County, Annual

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	18.00	42.00
tblConstructionPhase	NumDays	230.00	282.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	8.00	13.00
tblConstructionPhase	NumDays	18.00	23.00
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	PhaseEndDate	2/22/2019	6/27/2018
tblConstructionPhase	PhaseEndDate	11/23/2018	11/20/2018
tblConstructionPhase	PhaseEndDate	10/25/2017	10/23/2017
tblConstructionPhase	PhaseEndDate	12/26/2018	7/27/2018
tblConstructionPhase	PhaseEndDate	10/6/2017	10/5/2017
tblConstructionPhase	PhaseStartDate	12/27/2018	5/1/2018
tblConstructionPhase	PhaseStartDate	10/26/2017	10/23/2017
tblConstructionPhase	PhaseStartDate	10/7/2017	10/5/2017
tblConstructionPhase	PhaseStartDate	11/24/2018	6/27/2018
tblConstructionPhase	PhaseStartDate	7/29/2017	7/28/2017
tblEnergyUse	T24E	1.55	1.47
tblEnergyUse	T24E	6.40	6.08
tblEnergyUse	T24NG	19.81	18.82
tblEnergyUse	T24NG	16.39	15.57
tblGrading	MaterialExported	0.00	180.00
tblLandUse	LotAcreage	1.24	0.00
tblLandUse	LotAcreage	1.72	4.64
tblLandUse	LotAcreage	1.46	0.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029

tblProjectCharacteristics	CO2IntensityFactor	0	380
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblVehicleTrips	ST_TR	1.32	0.99
tblVehicleTrips	ST_TR	2.46	0.99
tblVehicleTrips	SU_TR	0.68	0.99
tblVehicleTrips	SU_TR	1.05	0.99
tblVehicleTrips	WD_TR	6.97	0.99
tblVehicleTrips	WD_TR	11.03	0.99
tblWater	IndoorWaterUseRate	17,343,750.00	89,529,678.00
tblWater	IndoorWaterUseRate	9,597,622.39	0.00
tblWater	OutdoorWaterUseRate	5,882,413.72	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4333	4.4304	2.3647	4.6100e-003	0.5820	0.2248	0.8067	0.2875	0.2085	0.4960	0.0000	425.0885	425.0885	0.1060	0.0000	427.7378
2018	1.0641	3.4488	2.6549	5.1800e-003	0.0987	0.1913	0.2899	0.0268	0.1799	0.2067	0.0000	466.6931	466.6931	0.0811	0.0000	468.7214
Maximum	**1.0641**	**4.4304**	**2.6549**	**5.1800e-003**	**0.5820**	**0.2248**	**0.8067**	**0.2875**	**0.2085**	**0.4960**	**0.0000**	**466.6931**	**466.6931**	**0.1060**	**0.0000**	**468.7214**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4333	4.4304	2.3647	4.6100e-003	0.5820	0.2248	0.8067	0.2875	0.2085	0.4960	0.0000	425.0881	425.0881	0.1060	0.0000	427.7373
2018	1.0641	3.4488	2.6549	5.1800e-003	0.0987	0.1913	0.2899	0.0268	0.1799	0.2067	0.0000	466.6928	466.6928	0.0811	0.0000	468.7210
Maximum	**1.0641**	**4.4304**	**2.6549**	**5.1800e-003**	**0.5820**	**0.2248**	**0.8067**	**0.2875**	**0.2085**	**0.4960**	**0.0000**	**466.6928**	**466.6928**	**0.1060**	**0.0000**	**468.7210**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2017	7-31-2017	2.0200	2.0200
2	8-1-2017	10-31-2017	2.0483	2.0483
3	11-1-2017	1-31-2018	1.1104	1.1104
4	2-1-2018	4-30-2018	0.9882	0.9882
5	5-1-2018	7-31-2018	1.9099	1.9099
6	8-1-2018	10-31-2018	1.0200	1.0200
7	11-1-2018	1-31-2019	0.2224	0.2224
		Highest	2.0483	2.0483

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8257	3.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2000e-003	5.2000e-003	1.0000e-005	0.0000	5.5600e-003
Energy	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	431.3098	431.3098	0.0245	7.1800e-003	434.0635
Mobile	0.0654	0.1196	0.7105	1.4300e-003	0.1273	1.4100e-003	0.1287	0.0340	1.3200e-003	0.0353	0.0000	129.1627	129.1627	7.7000e-003	0.0000	129.3551
Waste						0.0000	0.0000		0.0000	0.0000	29.0724	0.0000	29.0724	1.7181	0.0000	72.0256
Water						0.0000	0.0000		0.0000	0.0000	28.4036	83.5014	111.9051	2.9237	0.0702	205.9180
Total	**0.9059**	**0.2548**	**0.8267**	**2.2400e-003**	**0.1273**	**0.0117**	**0.1390**	**0.0340**	**0.0116**	**0.0456**	**57.4760**	**643.9791**	**701.4551**	**4.6741**	**0.0774**	**841.3677**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8268	3.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2000e-003	5.2000e-003	1.0000e-005	0.0000	5.5600e-003
Energy	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	431.3098	431.3098	0.0245	7.1800e-003	434.0635
Mobile	0.0654	0.1196	0.7105	1.4300e-003	0.1273	1.4100e-003	0.1287	0.0340	1.3200e-003	0.0353	0.0000	129.1627	129.1627	7.7000e-003	0.0000	129.3551
Waste						0.0000	0.0000		0.0000	0.0000	29.0724	0.0000	29.0724	1.7181	0.0000	72.0256
Water						0.0000	0.0000		0.0000	0.0000	28.4036	83.5014	111.9051	2.9237	0.0702	205.9180
Total	**0.9070**	**0.2548**	**0.8267**	**2.2400e-003**	**0.1273**	**0.0117**	**0.1390**	**0.0340**	**0.0116**	**0.0456**	**57.4760**	**643.9791**	**701.4551**	**4.6741**	**0.0774**	**841.3677**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**-0.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2017	7/28/2017	5	65	
2	Site Preparation	Site Preparation	7/28/2017	10/5/2017	5	50	
3	Grading	Grading	10/5/2017	10/23/2017	5	13	
4	Building Construction	Building Construction	10/23/2017	11/20/2018	5	282	
5	Paving	Paving	6/27/2018	7/27/2018	5	23	
6	Architectural Coating	Architectural Coating	5/1/2018	6/27/2018	5	42	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 193,500; Non-Residential Outdoor: 64,500; Striped Parking Area: 3,888 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Off-Highway Trucks	1	8.00	402	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	1	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	494.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	8	20.00	0.00	23.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	76.00	32.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0535	0.0000	0.0535	8.1000e-003	0.0000	8.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1618	1.7105	0.9009	1.6900e-003		0.0832	0.0832		0.0774	0.0774	0.0000	155.5334	155.5334	0.0438	0.0000	156.6293
Total	**0.1618**	**1.7105**	**0.9009**	**1.6900e-003**	**0.0535**	**0.0832**	**0.1367**	**8.1000e-003**	**0.0774**	**0.0855**	**0.0000**	**155.5334**	**155.5334**	**0.0438**	**0.0000**	**156.6293**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7800e-003	0.0878	0.0173	2.0000e-004	4.1900e-003	5.0000e-004	4.6800e-003	1.1500e-003	4.8000e-004	1.6300e-003	0.0000	19.3719	19.3719	9.4000e-004	0.0000	19.3955
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6500e-003	2.0800e-003	0.0211	5.0000e-005	4.6400e-003	3.0000e-005	4.6700e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	4.3532	4.3532	1.5000e-004	0.0000	4.3569
Total	**5.4300e-003**	**0.0899**	**0.0384**	**2.5000e-004**	**8.8300e-003**	**5.3000e-004**	**9.3500e-003**	**2.3800e-003**	**5.1000e-004**	**2.8900e-003**	**0.0000**	**23.7251**	**23.7251**	**1.0900e-003**	**0.0000**	**23.7523**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0535	0.0000	0.0535	8.1000e-003	0.0000	8.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1618	1.7105	0.9009	1.6900e-003		0.0832	0.0832		0.0774	0.0774	0.0000	155.5332	155.5332	0.0438	0.0000	156.6291
Total	**0.1618**	**1.7105**	**0.9009**	**1.6900e-003**	**0.0535**	**0.0832**	**0.1367**	**8.1000e-003**	**0.0774**	**0.0855**	**0.0000**	**155.5332**	**155.5332**	**0.0438**	**0.0000**	**156.6291**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7800e-003	0.0878	0.0173	2.0000e-004	4.1900e-003	5.0000e-004	4.6800e-003	1.1500e-003	4.8000e-004	1.6300e-003	0.0000	19.3719	19.3719	9.4000e-004	0.0000	19.3955
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6500e-003	2.0800e-003	0.0211	5.0000e-005	4.6400e-003	3.0000e-005	4.6700e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	4.3532	4.3532	1.5000e-004	0.0000	4.3569
Total	**5.4300e-003**	**0.0899**	**0.0384**	**2.5000e-004**	**8.8300e-003**	**5.3000e-004**	**9.3500e-003**	**2.3800e-003**	**5.1000e-004**	**2.8900e-003**	**0.0000**	**23.7251**	**23.7251**	**1.0900e-003**	**0.0000**	**23.7523**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4517	0.0000	0.4517	0.2483	0.0000	0.2483	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1459	1.5540	0.7041	1.2800e-003		0.0811	0.0811		0.0747	0.0747	0.0000	118.9758	118.9758	0.0365	0.0000	119.8871
Total	**0.1459**	**1.5540**	**0.7041**	**1.2800e-003**	**0.4517**	**0.0811**	**0.5328**	**0.2483**	**0.0747**	**0.3229**	**0.0000**	**118.9758**	**118.9758**	**0.0365**	**0.0000**	**119.8871**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.0900e-003	8.0000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.2000e-004	5.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.9019	0.9019	4.0000e-005	0.0000	0.9030
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2600e-003	1.7800e-003	0.0180	4.0000e-005	3.9700e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7207	3.7207	1.2000e-004	0.0000	3.7238
Total	**2.3900e-003**	**5.8700e-003**	**0.0188**	**5.0000e-005**	**4.1600e-003**	**5.0000e-005**	**4.2100e-003**	**1.1000e-003**	**5.0000e-005**	**1.1600e-003**	**0.0000**	**4.6226**	**4.6226**	**1.6000e-004**	**0.0000**	**4.6269**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4517	0.0000	0.4517	0.2483	0.0000	0.2483	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1459	1.5540	0.7041	1.2800e-003		0.0811	0.0811		0.0747	0.0747	0.0000	118.9756	118.9756	0.0365	0.0000	119.8870
Total	**0.1459**	**1.5540**	**0.7041**	**1.2800e-003**	**0.4517**	**0.0811**	**0.5328**	**0.2483**	**0.0747**	**0.3229**	**0.0000**	**118.9756**	**118.9756**	**0.0365**	**0.0000**	**119.8870**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.0900e-003	8.0000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.2000e-004	5.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.9019	0.9019	4.0000e-005	0.0000	0.9030
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2600e-003	1.7800e-003	0.0180	4.0000e-005	3.9700e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7207	3.7207	1.2000e-004	0.0000	3.7238
Total	**2.3900e-003**	**5.8700e-003**	**0.0188**	**5.0000e-005**	**4.1600e-003**	**5.0000e-005**	**4.2100e-003**	**1.1000e-003**	**5.0000e-005**	**1.1600e-003**	**0.0000**	**4.6226**	**4.6226**	**1.6000e-004**	**0.0000**	**4.6269**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0426	0.0000	0.0426	0.0219	0.0000	0.0219	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0257	0.2845	0.1418	2.8000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	25.8800	25.8800	7.9300e-003	0.0000	26.0782
Total	**0.0257**	**0.2845**	**0.1418**	**2.8000e-004**	**0.0426**	**0.0139**	**0.0565**	**0.0219**	**0.0128**	**0.0347**	**0.0000**	**25.8800**	**25.8800**	**7.9300e-003**	**0.0000**	**26.0782**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.2000e-004	4.2200e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8707	0.8707	3.0000e-005	0.0000	0.8714
Total	**5.3000e-004**	**4.2000e-004**	**4.2200e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8707**	**0.8707**	**3.0000e-005**	**0.0000**	**0.8714**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0426	0.0000	0.0426	0.0219	0.0000	0.0219	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0257	0.2845	0.1418	2.8000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	25.8800	25.8800	7.9300e-003	0.0000	26.0782
Total	**0.0257**	**0.2845**	**0.1418**	**2.8000e-004**	**0.0426**	**0.0139**	**0.0565**	**0.0219**	**0.0128**	**0.0347**	**0.0000**	**25.8800**	**25.8800**	**7.9300e-003**	**0.0000**	**26.0782**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.2000e-004	4.2200e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8707	0.8707	3.0000e-005	0.0000	0.8714
Total	**5.3000e-004**	**4.2000e-004**	**4.2200e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8707**	**0.8707**	**3.0000e-005**	**0.0000**	**0.8714**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0779	0.6639	0.4546	6.7000e-004		0.0447	0.0447		0.0420	0.0420	0.0000	60.1232	60.1232	0.0148	0.0000	60.4935
Total	**0.0779**	**0.6639**	**0.4546**	**6.7000e-004**		**0.0447**	**0.0447**		**0.0420**	**0.0420**	**0.0000**	**60.1232**	**60.1232**	**0.0148**	**0.0000**	**60.4935**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0400e-003	0.1146	0.0335	2.2000e-004	5.2600e-003	1.0800e-003	6.3400e-003	1.5200e-003	1.0400e-003	2.5600e-003	0.0000	21.2190	21.2190	1.1800e-003	0.0000	21.2485
Worker	8.5900e-003	6.7700e-003	0.0685	1.6000e-004	0.0151	1.0000e-004	0.0152	4.0100e-003	1.0000e-004	4.1000e-003	0.0000	14.1387	14.1387	4.7000e-004	0.0000	14.1505
Total	**0.0136**	**0.1214**	**0.1019**	**3.8000e-004**	**0.0203**	**1.1800e-003**	**0.0215**	**5.5300e-003**	**1.1400e-003**	**6.6600e-003**	**0.0000**	**35.3577**	**35.3577**	**1.6500e-003**	**0.0000**	**35.3990**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0779	0.6639	0.4546	6.7000e-004		0.0447	0.0447		0.0420	0.0420	0.0000	60.1231	60.1231	0.0148	0.0000	60.4935
Total	**0.0779**	**0.6639**	**0.4546**	**6.7000e-004**		**0.0447**	**0.0447**		**0.0420**	**0.0420**	**0.0000**	**60.1231**	**60.1231**	**0.0148**	**0.0000**	**60.4935**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0400e-003	0.1146	0.0335	2.2000e-004	5.2600e-003	1.0800e-003	6.3400e-003	1.5200e-003	1.0400e-003	2.5600e-003	0.0000	21.2190	21.2190	1.1800e-003	0.0000	21.2485
Worker	8.5900e-003	6.7700e-003	0.0685	1.6000e-004	0.0151	1.0000e-004	0.0152	4.0100e-003	1.0000e-004	4.1000e-003	0.0000	14.1387	14.1387	4.7000e-004	0.0000	14.1505
Total	**0.0136**	**0.1214**	**0.1019**	**3.8000e-004**	**0.0203**	**1.1800e-003**	**0.0215**	**5.5300e-003**	**1.1400e-003**	**6.6600e-003**	**0.0000**	**35.3577**	**35.3577**	**1.6500e-003**	**0.0000**	**35.3990**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3108	2.7132	2.0393	3.1200e-003		0.1740	0.1740		0.1636	0.1636	0.0000	275.8100	275.8100	0.0676	0.0000	277.4993
Total	**0.3108**	**2.7132**	**2.0393**	**3.1200e-003**		**0.1740**	**0.1740**		**0.1636**	**0.1636**	**0.0000**	**275.8100**	**275.8100**	**0.0676**	**0.0000**	**277.4993**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0203	0.4975	0.1385	1.0300e-003	0.0244	3.9900e-003	0.0284	7.0600e-003	3.8200e-003	0.0109	0.0000	98.2499	98.2499	5.1000e-003	0.0000	98.3773
Worker	0.0355	0.0273	0.2780	7.1000e-004	0.0699	4.7000e-004	0.0704	0.0186	4.3000e-004	0.0190	0.0000	63.7922	63.7922	1.9200e-003	0.0000	63.8401
Total	**0.0558**	**0.5248**	**0.4165**	**1.7400e-003**	**0.0943**	**4.4600e-003**	**0.0988**	**0.0257**	**4.2500e-003**	**0.0299**	**0.0000**	**162.0421**	**162.0421**	**7.0200e-003**	**0.0000**	**162.2174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3108	2.7132	2.0393	3.1200e-003		0.1740	0.1740		0.1636	0.1636	0.0000	275.8097	275.8097	0.0676	0.0000	277.4990
Total	**0.3108**	**2.7132**	**2.0393**	**3.1200e-003**		**0.1740**	**0.1740**		**0.1636**	**0.1636**	**0.0000**	**275.8097**	**275.8097**	**0.0676**	**0.0000**	**277.4990**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0203	0.4975	0.1385	1.0300e-003	0.0244	3.9900e-003	0.0284	7.0600e-003	3.8200e-003	0.0109	0.0000	98.2499	98.2499	5.1000e-003	0.0000	98.3773
Worker	0.0355	0.0273	0.2780	7.1000e-004	0.0699	4.7000e-004	0.0704	0.0186	4.3000e-004	0.0190	0.0000	63.7922	63.7922	1.9200e-003	0.0000	63.8401
Total	**0.0558**	**0.5248**	**0.4165**	**1.7400e-003**	**0.0943**	**4.4600e-003**	**0.0988**	**0.0257**	**4.2500e-003**	**0.0299**	**0.0000**	**162.0421**	**162.0421**	**7.0200e-003**	**0.0000**	**162.2174**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0164	0.1670	0.1430	2.2000e-004		9.6300e-003	9.6300e-003		8.8800e-003	8.8800e-003	0.0000	19.5356	19.5356	5.9200e-003	0.0000	19.6836
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.1670**	**0.1430**	**2.2000e-004**		**9.6300e-003**	**9.6300e-003**		**8.8800e-003**	**8.8800e-003**	**0.0000**	**19.5356**	**19.5356**	**5.9200e-003**	**0.0000**	**19.6836**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3000e-004	7.1000e-004	7.2500e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6643	1.6643	5.0000e-005	0.0000	1.6655
Total	**9.3000e-004**	**7.1000e-004**	**7.2500e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6643**	**1.6643**	**5.0000e-005**	**0.0000**	**1.6655**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0164	0.1670	0.1430	2.2000e-004		9.6300e-003	9.6300e-003		8.8800e-003	8.8800e-003	0.0000	19.5356	19.5356	5.9200e-003	0.0000	19.6835
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.1670**	**0.1430**	**2.2000e-004**		**9.6300e-003**	**9.6300e-003**		**8.8800e-003**	**8.8800e-003**	**0.0000**	**19.5356**	**19.5356**	**5.9200e-003**	**0.0000**	**19.6835**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3000e-004	7.1000e-004	7.2500e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6643	1.6643	5.0000e-005	0.0000	1.6655
Total	**9.3000e-004**	**7.1000e-004**	**7.2500e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6643**	**1.6643**	**5.0000e-005**	**0.0000**	**1.6655**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6727					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2700e-003	0.0421	0.0389	6.0000e-005		3.1600e-003	3.1600e-003		3.1600e-003	3.1600e-003	0.0000	5.3618	5.3618	5.1000e-004	0.0000	5.3746
Total	**0.6789**	**0.0421**	**0.0389**	**6.0000e-005**		**3.1600e-003**	**3.1600e-003**		**3.1600e-003**	**3.1600e-003**	**0.0000**	**5.3618**	**5.3618**	**5.1000e-004**	**0.0000**	**5.3746**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2700e-003	9.7000e-004	9.9300e-003	3.0000e-005	2.5000e-003	2.0000e-005	2.5200e-003	6.6000e-004	2.0000e-005	6.8000e-004	0.0000	2.2793	2.2793	7.0000e-005	0.0000	2.2810
Total	**1.2700e-003**	**9.7000e-004**	**9.9300e-003**	**3.0000e-005**	**2.5000e-003**	**2.0000e-005**	**2.5200e-003**	**6.6000e-004**	**2.0000e-005**	**6.8000e-004**	**0.0000**	**2.2793**	**2.2793**	**7.0000e-005**	**0.0000**	**2.2810**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6727					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2700e-003	0.0421	0.0389	6.0000e-005		3.1600e-003	3.1600e-003		3.1600e-003	3.1600e-003	0.0000	5.3618	5.3618	5.1000e-004	0.0000	5.3746
Total	**0.6789**	**0.0421**	**0.0389**	**6.0000e-005**		**3.1600e-003**	**3.1600e-003**		**3.1600e-003**	**3.1600e-003**	**0.0000**	**5.3618**	**5.3618**	**5.1000e-004**	**0.0000**	**5.3746**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2700e-003	9.7000e-004	9.9300e-003	3.0000e-005	2.5000e-003	2.0000e-005	2.5200e-003	6.6000e-004	2.0000e-005	6.8000e-004	0.0000	2.2793	2.2793	7.0000e-005	0.0000	2.2810
Total	**1.2700e-003**	**9.7000e-004**	**9.9300e-003**	**3.0000e-005**	**2.5000e-003**	**2.0000e-005**	**2.5200e-003**	**6.6000e-004**	**2.0000e-005**	**6.8000e-004**	**0.0000**	**2.2793**	**2.2793**	**7.0000e-005**	**0.0000**	**2.2810**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0654	0.1196	0.7105	1.4300e-003	0.1273	1.4100e-003	0.1287	0.0340	1.3200e-003	0.0353	0.0000	129.1627	129.1627	7.7000e-003	0.0000	129.3551
Unmitigated	0.0654	0.1196	0.7105	1.4300e-003	0.1273	1.4100e-003	0.1287	0.0340	1.3200e-003	0.0353	0.0000	129.1627	129.1627	7.7000e-003	0.0000	129.3551

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	74.25	74.25	74.25	216,774	216,774
General Office Building	53.46	53.46	53.46	127,756	127,756
Parking Lot	0.00	0.00	0.00		
Total	127.71	127.71	127.71	344,530	344,530

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.584095	0.043637	0.186774	0.119201	0.017975	0.004448	0.008402	0.004975	0.001034	0.000407	0.025015	0.000521	0.003514
General Light Industry	0.584095	0.043637	0.186774	0.119201	0.017975	0.004448	0.008402	0.004975	0.001034	0.000407	0.025015	0.000521	0.003514
Parking Lot	0.584095	0.043637	0.186774	0.119201	0.017975	0.004448	0.008402	0.004975	0.001034	0.000407	0.025015	0.000521	0.003514

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	284.2514	284.2514	0.0217	4.4900e-003	286.1312
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	284.2514	284.2514	0.0217	4.4900e-003	286.1312
NaturalGas Mitigated	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	147.0584	147.0584	2.8200e-003	2.7000e-003	147.9323
NaturalGas Unmitigated	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	147.0584	147.0584	2.8200e-003	2.7000e-003	147.9323

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	844020	4.5500e-003	0.0414	0.0348	2.5000e-004		3.1400e-003	3.1400e-003		3.1400e-003	3.1400e-003	0.0000	45.0401	45.0401	8.6000e-004	8.3000e-004	45.3078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.91175e+006	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003	0.0000	102.0183	102.0183	1.9600e-003	1.8700e-003	102.6245
Total		**0.0149**	**0.1351**	**0.1135**	**8.1000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**147.0584**	**147.0584**	**2.8200e-003**	**2.7000e-003**	**147.9323**

McLaren Phase 1 - Santa Clara County, Annual

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	844020	4.5500e-003	0.0414	0.0348	2.5000e-004		3.1400e-003	3.1400e-003		3.1400e-003	3.1400e-003	0.0000	45.0401	45.0401	8.6000e-004	8.3000e-004	45.3078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.91175e+006	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003	0.0000	102.0183	102.0183	1.9600e-003	1.8700e-003	102.6245
Total		**0.0149**	**0.1351**	**0.1135**	**8.1000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**147.0584**	**147.0584**	**2.8200e-003**	**2.7000e-003**	**147.9323**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	625500	107.8144	8.2300e-003	1.7000e-003	108.5274
General Office Building	966600	166.6081	0.0127	2.6300e-003	167.7099
Parking Lot	57024	9.8290	7.5000e-004	1.6000e-004	9.8940
Total		**284.2514**	**0.0217**	**4.4900e-003**	**286.1312**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	625500	107.8144	8.2300e-003	1.7000e-003	108.5274
General Office Building	966600	166.6081	0.0127	2.6300e-003	167.7099
Parking Lot	57024	9.8290	7.5000e-004	1.6000e-004	9.8940
Total		**284.2514**	**0.0217**	**4.4900e-003**	**286.1312**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8268	3.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2000e-003	5.2000e-003	1.0000e-005	0.0000	5.5600e-003
Unmitigated	0.8257	3.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2000e-003	5.2000e-003	1.0000e-005	0.0000	5.5600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0683					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7571					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2000e-003	5.2000e-003	1.0000e-005	0.0000	5.5600e-003
Total	**0.8257**	**3.0000e-005**	**2.7100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2000e-003**	**5.2000e-003**	**1.0000e-005**	**0.0000**	**5.5600e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0696					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7569					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2000e-003	5.2000e-003	1.0000e-005	0.0000	5.5600e-003
Total	**0.8268**	**3.0000e-005**	**2.7100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2000e-003**	**5.2000e-003**	**1.0000e-005**	**0.0000**	**5.5600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	111.9051	2.9237	0.0702	205.9180
Unmitigated	111.9051	2.9237	0.0702	205.9180

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	89.5297 / 0	111.9051	2.9237	0.0702	205.9180
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**111.9051**	**2.9237**	**0.0702**	**205.9180**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	89.5297 / 0	111.9051	2.9237	0.0702	205.9180
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**111.9051**	**2.9237**	**0.0702**	**205.9180**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	29.0724	1.7181	0.0000	72.0256
Unmitigated	29.0724	1.7181	0.0000	72.0256

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	93	18.8782	1.1157	0.0000	46.7698
General Office Building	50.22	10.1942	0.6025	0.0000	25.2557
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**29.0724**	**1.7181**	**0.0000**	**72.0256**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	93	18.8782	1.1157	0.0000	46.7698
General Office Building	50.22	10.1942	0.6025	0.0000	25.2557
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**29.0724**	**1.7181**	**0.0000**	**72.0256**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

McLaren Phase 2

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	17.00	1000sqft	0.00	17,000.00	0
General Light Industry	61.00	1000sqft	0.00	61,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2019
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Utility Company is Silicon Valley Power. Using PG&E CH4 and N2O intensity factors to be conservative.

Land Use - provided landuse

Construction Phase - provided schedule

Off-road Equipment -

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Trips and VMT - provided info

Demolition - provided equipment info

Grading - provided info

Architectural Coating - provided info

Vehicle Trips - project-specific data.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - adjusted for 2016 title 24

Water And Wastewater - project-specific data.

Solid Waste -

Construction Off-road Equipment Mitigation -

Fleet Mix -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	0.00	42.00
tblConstructionPhase	NumDays	0.00	282.00
tblConstructionPhase	NumDays	0.00	13.00
tblConstructionPhase	NumDays	0.00	23.00
tblConstructionPhase	NumDays	0.00	50.00
tblConstructionPhase	PhaseEndDate	2/25/2020	7/30/2019
tblConstructionPhase	PhaseEndDate	11/26/2019	11/22/2019
tblConstructionPhase	PhaseEndDate	10/26/2018	10/25/2018
tblConstructionPhase	PhaseEndDate	12/27/2019	9/13/2019
tblConstructionPhase	PhaseStartDate	12/28/2019	6/1/2019
tblConstructionPhase	PhaseStartDate	10/27/2018	10/25/2018
tblConstructionPhase	PhaseStartDate	10/10/2018	10/9/2018
tblConstructionPhase	PhaseStartDate	11/27/2019	8/14/2019
tblEnergyUse	T24E	1.55	1.47
tblEnergyUse	T24E	6.40	6.08
tblEnergyUse	T24NG	19.81	18.82
tblEnergyUse	T24NG	16.39	15.57
tblLandUse	LotAcreage	0.39	0.00
tblLandUse	LotAcreage	1.40	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00

tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	1.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	380
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	ST_TR	1.32	0.99
tblVehicleTrips	ST_TR	2.46	0.99
tblVehicleTrips	SU_TR	0.68	0.99
tblVehicleTrips	SU_TR	1.05	0.99
tblVehicleTrips	WD_TR	6.97	0.99
tblVehicleTrips	WD_TR	11.03	0.99
tblWater	IndoorWaterUseRate	14,106,250.00	74,439,454.00
tblWater	IndoorWaterUseRate	3,021,473.72	0.00
tblWater	OutdoorWaterUseRate	1,851,870.99	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1252	1.1058	0.6839	1.4900e-003	0.0554	0.0527	0.1081	0.0206	0.0498	0.0704	0.0000	132.0751	132.0751	0.0312	0.0000	132.8551
2019	0.7101	2.2156	1.8780	3.5200e-003	0.0410	0.1174	0.1583	0.0111	0.1132	0.1243	0.0000	300.6127	300.6127	0.0486	0.0000	301.8276
Maximum	**0.7101**	**2.2156**	**1.8780**	**3.5200e-003**	**0.0554**	**0.1174**	**0.1583**	**0.0206**	**0.1132**	**0.1243**	**0.0000**	**300.6127**	**300.6127**	**0.0486**	**0.0000**	**301.8276**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1252	1.1058	0.6839	1.4900e-003	0.0554	0.0527	0.1081	0.0206	0.0498	0.0704	0.0000	132.0750	132.0750	0.0312	0.0000	132.8550
2019	0.7101	2.2156	1.8780	3.5200e-003	0.0410	0.1174	0.1583	0.0111	0.1132	0.1243	0.0000	300.6124	300.6124	0.0486	0.0000	301.8273
Maximum	**0.7101**	**2.2156**	**1.8780**	**3.5200e-003**	**0.0554**	**0.1174**	**0.1583**	**0.0206**	**0.1132**	**0.1243**	**0.0000**	**300.6124**	**300.6124**	**0.0486**	**0.0000**	**301.8273**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

McLaren Phase 2 - Santa Clara County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**8-1-2018**	**10-31-2018**	0.7431	0.7431
2	**11-1-2018**	**1-31-2019**	0.7044	0.7044
3	**2-1-2019**	**4-30-2019**	0.6408	0.6408
4	**5-1-2019**	**7-31-2019**	1.1222	1.1222
5	**8-1-2019**	**10-31-2019**	0.7735	0.7735
6	**11-1-2019**	**1-31-2020**	0.1585	0.1585
		Highest	1.1222	1.1222

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Energy	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	237.3190	237.3190	0.0126	3.9900e-003	238.8233
Mobile	0.0378	0.0686	0.4091	8.7000e-004	0.0802	8.3000e-004	0.0810	0.0214	7.8000e-004	0.0222	0.0000	78.9533	78.9533	4.6100e-003	0.0000	79.0687
Waste						0.0000	0.0000		0.0000	0.0000	18.5635	0.0000	18.5635	1.0971	0.0000	45.9903
Water						0.0000	0.0000		0.0000	0.0000	23.6162	69.4273	93.0435	2.4309	0.0584	171.2105
Total	**0.3930**	**0.1578**	**0.4848**	**1.4100e-003**	**0.0802**	**7.6100e-003**	**0.0878**	**0.0214**	**7.5600e-003**	**0.0290**	**42.1797**	**385.7010**	**427.8807**	**3.5452**	**0.0624**	**535.0943**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Energy	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	237.3190	237.3190	0.0126	3.9900e-003	238.8233
Mobile	0.0378	0.0686	0.4091	8.7000e-004	0.0802	8.3000e-004	0.0810	0.0214	7.8000e-004	0.0222	0.0000	78.9533	78.9533	4.6100e-003	0.0000	79.0687
Waste						0.0000	0.0000		0.0000	0.0000	18.5635	0.0000	18.5635	1.0971	0.0000	45.9903
Water						0.0000	0.0000		0.0000	0.0000	23.6162	69.4273	93.0435	2.4309	0.0584	171.2105
Total	**0.3930**	**0.1578**	**0.4848**	**1.4100e-003**	**0.0802**	**7.6100e-003**	**0.0878**	**0.0214**	**7.5600e-003**	**0.0290**	**42.1797**	**385.7010**	**427.8807**	**3.5452**	**0.0624**	**535.0943**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

McLaren Phase 2 - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/1/2018	10/9/2018	5	50	
2	Grading	Grading	10/9/2018	10/25/2018	5	13	
3	Building Construction	Building Construction	10/25/2018	11/22/2019	5	282	
4	Paving	Paving	8/14/2019	9/13/2019	5	23	
5	Architectural Coating	Architectural Coating	6/1/2019	7/30/2019	5	42	

Acres of Grading (Site Preparation Phase): 25

Acres of Grading (Grading Phase): 4.88

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 117,000; Non-Residential Outdoor: 39,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Graders	1	6.00	187	0.41
Grading	Off-Highway Trucks	1	8.00	402	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	6.00	132	0.36
Paving	Rollers	1	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	31.00	13.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0390	0.4521	0.2113	5.7000e-004		0.0181	0.0181		0.0166	0.0166	0.0000	52.4427	52.4427	0.0163	0.0000	52.8509
Total	**0.0390**	**0.4521**	**0.2113**	**5.7000e-004**	**0.0133**	**0.0181**	**0.0313**	**1.4300e-003**	**0.0166**	**0.0180**	**0.0000**	**52.4427**	**52.4427**	**0.0163**	**0.0000**	**52.8509**

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	6.2000e-004	6.3100e-003	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4472	1.4472	4.0000e-005	0.0000	1.4483
Total	**8.1000e-004**	**6.2000e-004**	**6.3100e-003**	**2.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.4472**	**1.4472**	**4.0000e-005**	**0.0000**	**1.4483**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0390	0.4521	0.2113	5.7000e-004		0.0181	0.0181		0.0166	0.0166	0.0000	52.4426	52.4426	0.0163	0.0000	52.8508
Total	**0.0390**	**0.4521**	**0.2113**	**5.7000e-004**	**0.0133**	**0.0181**	**0.0313**	**1.4300e-003**	**0.0166**	**0.0180**	**0.0000**	**52.4426**	**52.4426**	**0.0163**	**0.0000**	**52.8508**

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	6.2000e-004	6.3100e-003	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4472	1.4472	4.0000e-005	0.0000	1.4483
Total	**8.1000e-004**	**6.2000e-004**	**6.3100e-003**	**2.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.4472**	**1.4472**	**4.0000e-005**	**0.0000**	**1.4483**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0320	0.0000	0.0320	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1905	0.0955	2.2000e-004		8.8800e-003	8.8800e-003		8.3000e-003	8.3000e-003	0.0000	19.7159	19.7159	5.3200e-003	0.0000	19.8489
Total	**0.0181**	**0.1905**	**0.0955**	**2.2000e-004**	**0.0320**	**8.8800e-003**	**0.0408**	**0.0164**	**8.3000e-003**	**0.0247**	**0.0000**	**19.7159**	**19.7159**	**5.3200e-003**	**0.0000**	**19.8489**

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6600e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6114	0.6114	2.0000e-005	0.0000	0.6119
Total	**3.4000e-004**	**2.6000e-004**	**2.6600e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6114**	**0.6114**	**2.0000e-005**	**0.0000**	**0.6119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0320	0.0000	0.0320	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1905	0.0955	2.2000e-004		8.8800e-003	8.8800e-003		8.3000e-003	8.3000e-003	0.0000	19.7158	19.7158	5.3200e-003	0.0000	19.8489
Total	**0.0181**	**0.1905**	**0.0955**	**2.2000e-004**	**0.0320**	**8.8800e-003**	**0.0408**	**0.0164**	**8.3000e-003**	**0.0247**	**0.0000**	**19.7158**	**19.7158**	**5.3200e-003**	**0.0000**	**19.8489**

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6600e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6114	0.6114	2.0000e-005	0.0000	0.6119
Total	**3.4000e-004**	**2.6000e-004**	**2.6600e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6114**	**0.6114**	**2.0000e-005**	**0.0000**	**0.6119**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0622	0.4183	0.3330	5.3000e-004		0.0254	0.0254		0.0245	0.0245	0.0000	44.2163	44.2163	8.9000e-003	0.0000	44.4388
Total	**0.0622**	**0.4183**	**0.3330**	**5.3000e-004**		**0.0254**	**0.0254**		**0.0245**	**0.0245**	**0.0000**	**44.2163**	**44.2163**	**8.9000e-003**	**0.0000**	**44.4388**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7100e-003	0.0418	0.0116	9.0000e-005	2.0500e-003	3.4000e-004	2.3900e-003	5.9000e-004	3.2000e-004	9.1000e-004	0.0000	8.2581	8.2581	4.3000e-004	0.0000	8.2688
Worker	3.0000e-003	2.3000e-003	0.0235	6.0000e-005	5.9000e-003	4.0000e-005	5.9400e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	5.3836	5.3836	1.6000e-004	0.0000	5.3876
Total	**4.7100e-003**	**0.0441**	**0.0351**	**1.5000e-004**	**7.9500e-003**	**3.8000e-004**	**8.3300e-003**	**2.1600e-003**	**3.6000e-004**	**2.5200e-003**	**0.0000**	**13.6416**	**13.6416**	**5.9000e-004**	**0.0000**	**13.6564**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0622	0.4183	0.3330	5.3000e-004		0.0254	0.0254		0.0245	0.0245	0.0000	44.2163	44.2163	8.9000e-003	0.0000	44.4388
Total	**0.0622**	**0.4183**	**0.3330**	**5.3000e-004**		**0.0254**	**0.0254**		**0.0245**	**0.0245**	**0.0000**	**44.2163**	**44.2163**	**8.9000e-003**	**0.0000**	**44.4388**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7100e-003	0.0418	0.0116	9.0000e-005	2.0500e-003	3.4000e-004	2.3900e-003	5.9000e-004	3.2000e-004	9.1000e-004	0.0000	8.2581	8.2581	4.3000e-004	0.0000	8.2688
Worker	3.0000e-003	2.3000e-003	0.0235	6.0000e-005	5.9000e-003	4.0000e-005	5.9400e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	5.3836	5.3836	1.6000e-004	0.0000	5.3876
Total	**4.7100e-003**	**0.0441**	**0.0351**	**1.5000e-004**	**7.9500e-003**	**3.8000e-004**	**8.3300e-003**	**2.1600e-003**	**3.6000e-004**	**2.5200e-003**	**0.0000**	**13.6416**	**13.6416**	**5.9000e-004**	**0.0000**	**13.6564**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2658	1.8697	1.5780	2.5800e-003		0.1072	0.1072		0.1035	0.1035	0.0000	214.1941	214.1941	0.0412	0.0000	215.2236
Total	**0.2658**	**1.8697**	**1.5780**	**2.5800e-003**		**0.1072**	**0.1072**		**0.1035**	**0.1035**	**0.0000**	**214.1941**	**214.1941**	**0.0412**	**0.0000**	**215.2236**

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4600e-003	0.1921	0.0516	4.2000e-004	0.0100	1.3800e-003	0.0114	2.8900e-003	1.3200e-003	4.2100e-003	0.0000	40.0102	40.0102	1.9800e-003	0.0000	40.0598
Worker	0.0132	9.8100e-003	0.1013	2.8000e-004	0.0288	1.9000e-004	0.0290	7.6500e-003	1.7000e-004	7.8300e-003	0.0000	25.4646	25.4646	6.9000e-004	0.0000	25.4819
Total	**0.0206**	**0.2019**	**0.1529**	**7.0000e-004**	**0.0388**	**1.5700e-003**	**0.0404**	**0.0105**	**1.4900e-003**	**0.0120**	**0.0000**	**65.4747**	**65.4747**	**2.6700e-003**	**0.0000**	**65.5417**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2658	1.8697	1.5780	2.5800e-003		0.1072	0.1072		0.1035	0.1035	0.0000	214.1939	214.1939	0.0412	0.0000	215.2233
Total	**0.2658**	**1.8697**	**1.5780**	**2.5800e-003**		**0.1072**	**0.1072**		**0.1035**	**0.1035**	**0.0000**	**214.1939**	**214.1939**	**0.0412**	**0.0000**	**215.2233**

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4600e-003	0.1921	0.0516	4.2000e-004	0.0100	1.3800e-003	0.0114	2.8900e-003	1.3200e-003	4.2100e-003	0.0000	40.0102	40.0102	1.9800e-003	0.0000	40.0598
Worker	0.0132	9.8100e-003	0.1013	2.8000e-004	0.0288	1.9000e-004	0.0290	7.6500e-003	1.7000e-004	7.8300e-003	0.0000	25.4646	25.4646	6.9000e-004	0.0000	25.4819
Total	**0.0206**	**0.2019**	**0.1529**	**7.0000e-004**	**0.0388**	**1.5700e-003**	**0.0404**	**0.0105**	**1.4900e-003**	**0.0120**	**0.0000**	**65.4747**	**65.4747**	**2.6700e-003**	**0.0000**	**65.5417**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1048	0.1007	1.5000e-004		5.9100e-003	5.9100e-003		5.4500e-003	5.4500e-003	0.0000	13.6478	13.6478	4.2300e-003	0.0000	13.7536
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1048**	**0.1007**	**1.5000e-004**		**5.9100e-003**	**5.9100e-003**		**5.4500e-003**	**5.4500e-003**	**0.0000**	**13.6478**	**13.6478**	**4.2300e-003**	**0.0000**	**13.7536**

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.0000e-004	4.1800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0496	1.0496	3.0000e-005	0.0000	1.0503
Total	**5.4000e-004**	**4.0000e-004**	**4.1800e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0496**	**1.0496**	**3.0000e-005**	**0.0000**	**1.0503**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1048	0.1007	1.5000e-004		5.9100e-003	5.9100e-003		5.4500e-003	5.4500e-003	0.0000	13.6477	13.6477	4.2300e-003	0.0000	13.7536
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1048**	**0.1007**	**1.5000e-004**		**5.9100e-003**	**5.9100e-003**		**5.4500e-003**	**5.4500e-003**	**0.0000**	**13.6477**	**13.6477**	**4.2300e-003**	**0.0000**	**13.7536**

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.0000e-004	4.1800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0496	1.0496	3.0000e-005	0.0000	1.0503
Total	**5.4000e-004**	**4.0000e-004**	**4.1800e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0496**	**1.0496**	**3.0000e-005**	**0.0000**	**1.0503**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4067					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6000e-003	0.0385	0.0387	6.0000e-005		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	5.3618	5.3618	4.5000e-004	0.0000	5.3732
Total	**0.4123**	**0.0385**	**0.0387**	**6.0000e-005**		**2.7000e-003**	**2.7000e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**5.3618**	**5.3618**	**4.5000e-004**	**0.0000**	**5.3732**

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.4000e-004	3.5200e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8846	0.8846	2.0000e-005	0.0000	0.8852
Total	**4.6000e-004**	**3.4000e-004**	**3.5200e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8846**	**0.8846**	**2.0000e-005**	**0.0000**	**0.8852**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4067					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6000e-003	0.0385	0.0387	6.0000e-005		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	5.3618	5.3618	4.5000e-004	0.0000	5.3732
Total	**0.4123**	**0.0385**	**0.0387**	**6.0000e-005**		**2.7000e-003**	**2.7000e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**5.3618**	**5.3618**	**4.5000e-004**	**0.0000**	**5.3732**

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.4000e-004	3.5200e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8846	0.8846	2.0000e-005	0.0000	0.8852
Total	**4.6000e-004**	**3.4000e-004**	**3.5200e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8846**	**0.8846**	**2.0000e-005**	**0.0000**	**0.8852**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0378	0.0686	0.4091	8.7000e-004	0.0802	8.3000e-004	0.0810	0.0214	7.8000e-004	0.0222	0.0000	78.9533	78.9533	4.6100e-003	0.0000	79.0687
Unmitigated	0.0378	0.0686	0.4091	8.7000e-004	0.0802	8.3000e-004	0.0810	0.0214	7.8000e-004	0.0222	0.0000	78.9533	78.9533	4.6100e-003	0.0000	79.0687

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	60.55	60.55	60.55	176,790	176,790
General Office Building	16.88	16.88	16.88	40,329	40,329
Total	77.43	77.43	77.43	217,119	217,119

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.587868	0.042347	0.185470	0.118408	0.017434	0.004471	0.008461	0.005018	0.001064	0.000405	0.025142	0.000525	0.003387
General Light Industry	0.587868	0.042347	0.185470	0.118408	0.017434	0.004471	0.008461	0.005018	0.001064	0.000405	0.025142	0.000525	0.003387

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1660	140.1660	0.0107	2.2100e-003	141.0930
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1660	140.1660	0.0107	2.2100e-003	141.0930
NaturalGas Mitigated	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	97.1530	97.1530	1.8600e-003	1.7800e-003	97.7303
NaturalGas Unmitigated	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	97.1530	97.1530	1.8600e-003	1.7800e-003	97.7303

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	265719	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1798	14.1798	2.7000e-004	2.6000e-004	14.2640
General Light Industry	1.55486e+006	8.3800e-003	0.0762	0.0640	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9732	82.9732	1.5900e-003	1.5200e-003	83.4663
Total		**9.8100e-003**	**0.0893**	**0.0750**	**5.4000e-004**		**6.7800e-003**	**6.7800e-003**		**6.7800e-003**	**6.7800e-003**	**0.0000**	**97.1530**	**97.1530**	**1.8600e-003**	**1.7800e-003**	**97.7303**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.55486e+006	8.3800e-003	0.0762	0.0640	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9732	82.9732	1.5900e-003	1.5200e-003	83.4663
General Office Building	265719	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1798	14.1798	2.7000e-004	2.6000e-004	14.2640
Total		**9.8100e-003**	**0.0893**	**0.0750**	**5.4000e-004**		**6.7800e-003**	**6.7800e-003**		**6.7800e-003**	**6.7800e-003**	**0.0000**	**97.1530**	**97.1530**	**1.8600e-003**	**1.7800e-003**	**97.7303**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	508893	87.7153	6.6900e-003	1.3800e-003	88.2954
General Office Building	304300	52.4507	4.0000e-003	8.3000e-004	52.7976
Total		**140.1660**	**0.0107**	**2.2100e-003**	**141.0929**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	508893	87.7153	6.6900e-003	1.3800e-003	88.2954
General Office Building	304300	52.4507	4.0000e-003	8.3000e-004	52.7976
Total		**140.1660**	**0.0107**	**2.2100e-003**	**141.0929**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Unmitigated	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0407					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3046					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Total	**0.3454**	**1.0000e-005**	**7.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3900e-003**	**1.3900e-003**	**0.0000**	**0.0000**	**1.4900e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0407					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3046					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Total	**0.3454**	**1.0000e-005**	**7.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3900e-003**	**1.3900e-003**	**0.0000**	**0.0000**	**1.4900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	93.0435	2.4309	0.0584	171.2105
Unmitigated	93.0435	2.4309	0.0584	171.2105

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	74.4395 / 0	93.0435	2.4309	0.0584	171.2105
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**93.0435**	**2.4309**	**0.0584**	**171.2105**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	74.4395 / 0	93.0435	2.4309	0.0584	171.2105
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**93.0435**	**2.4309**	**0.0584**	**171.2105**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.5635	1.0971	0.0000	45.9903
Unmitigated	18.5635	1.0971	0.0000	45.9903

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	75.64	15.3542	0.9074	0.0000	38.0395
General Office Building	15.81	3.2093	0.1897	0.0000	7.9509
Total		**18.5635**	**1.0971**	**0.0000**	**45.9903**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	75.64	15.3542	0.9074	0.0000	38.0395
General Office Building	15.81	3.2093	0.1897	0.0000	7.9509
Total		**18.5635**	**1.0971**	**0.0000**	**45.9903**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

McLaren Phase 3

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	54.00	1000sqft	0.00	54,000.00	0
General Light Industry	75.00	1000sqft	4.34	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Utility Company is Silicon Valley Power. Using PG&E CH4 and N2O intensity factors to be conservative.

Land Use - provided landuse

Construction Phase - provided schedule

Off-road Equipment -

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Trips and VMT - provided info

Demolition - provided equipment info

Grading - provided info

Architectural Coating - provided info

Vehicle Trips - project-specific data

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - adjusted for 2016 title 24

Water And Wastewater - project-specific data.

Solid Waste -

Fleet Mix -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	18.00	42.00
tblConstructionPhase	NumDays	230.00	282.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	8.00	13.00
tblConstructionPhase	NumDays	18.00	23.00
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	PhaseEndDate	9/24/2021	1/27/2021
tblConstructionPhase	PhaseEndDate	6/25/2021	6/29/2021
tblConstructionPhase	PhaseEndDate	7/28/2021	3/3/2021
tblConstructionPhase	PhaseStartDate	7/29/2021	12/1/2020
tblConstructionPhase	PhaseStartDate	5/28/2020	6/1/2020
tblConstructionPhase	PhaseStartDate	5/9/2020	5/10/2020
tblConstructionPhase	PhaseStartDate	6/26/2021	2/1/2021
tblConstructionPhase	PhaseStartDate	2/29/2020	3/1/2020
tblEnergyUse	T24E	1.55	1.47
tblEnergyUse	T24E	6.40	6.08
tblEnergyUse	T24NG	19.81	18.82
tblEnergyUse	T24NG	16.39	15.57
tblLandUse	LotAcreage	1.24	0.00
tblLandUse	LotAcreage	1.72	4.34
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	380
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblProjectCharacteristics	OperationalYear	2018	2021
tblVehicleTrips	ST_TR	1.32	0.99

tblVehicleTrips	ST_TR	2.46	0.99
tblVehicleTrips	SU_TR	0.68	0.99
tblVehicleTrips	SU_TR	1.05	0.99
tblVehicleTrips	WD_TR	6.97	0.99
tblVehicleTrips	WD_TR	11.03	0.99
tblWater	IndoorWaterUseRate	17,343,750.00	89,529,678.00
tblWater	IndoorWaterUseRate	9,597,622.39	0.00
tblWater	OutdoorWaterUseRate	5,882,413.72	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0475	0.4828	0.2941	6.1000e-004	9.5200e-003	0.0227	0.0322	1.7600e-003	0.0211	0.0228	0.0000	54.9026	54.9026	0.0149	0.0000	55.2744
2020	0.7816	3.9908	2.8053	5.6400e-003	0.5581	0.1996	0.7577	0.2859	0.1859	0.4718	0.0000	496.5047	496.5047	0.1197	0.0000	499.4979
2021	0.4557	1.4003	1.3350	2.5800e-003	0.0363	0.0694	0.1057	9.8600e-003	0.0652	0.0750	0.0000	227.0361	227.0361	0.0439	0.0000	228.1332
Maximum	**0.7816**	**3.9908**	**2.8053**	**5.6400e-003**	**0.5581**	**0.1996**	**0.7577**	**0.2859**	**0.1859**	**0.4718**	**0.0000**	**496.5047**	**496.5047**	**0.1197**	**0.0000**	**499.4979**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0475	0.4828	0.2941	6.1000e-004	9.5200e-003	0.0227	0.0322	1.7600e-003	0.0211	0.0228	0.0000	54.9025	54.9025	0.0149	0.0000	55.2744
2020	0.7816	3.9908	2.8053	5.6400e-003	0.5581	0.1996	0.7577	0.2859	0.1859	0.4718	0.0000	496.5042	496.5042	0.1197	0.0000	499.4974
2021	0.4557	1.4003	1.3350	2.5800e-003	0.0363	0.0694	0.1057	9.8600e-003	0.0652	0.0750	0.0000	227.0359	227.0359	0.0439	0.0000	228.1330
Maximum	**0.7816**	**3.9908**	**2.8053**	**5.6400e-003**	**0.5581**	**0.1996**	**0.7577**	**0.2859**	**0.1859**	**0.4718**	**0.0000**	**496.5042**	**496.5042**	**0.1197**	**0.0000**	**499.4974**

McLaren Phase 3 - Santa Clara County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-1-2019	2-29-2020	1.4706	1.4706
2	3-1-2020	5-31-2020	1.5516	1.5516
3	6-1-2020	8-31-2020	0.7894	0.7894
4	9-1-2020	11-30-2020	0.7822	0.7822
5	12-1-2020	2-28-2021	1.5503	1.5503
6	3-1-2021	5-31-2021	0.7293	0.7293
7	6-1-2021	8-31-2021	0.2256	0.2256
		Highest	1.5516	1.5516

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5712	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3100e-003	2.3100e-003	1.0000e-005	0.0000	2.4600e-003
Energy	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	421.5126	421.5126	0.0238	7.0300e-003	424.2015
Mobile	0.0545	0.0896	0.5668	1.3000e-003	0.1272	1.0200e-003	0.1282	0.0340	9.5000e-004	0.0349	0.0000	117.5922	117.5922	6.7700e-003	0.0000	117.7615
Waste						0.0000	0.0000		0.0000	0.0000	29.0724	0.0000	29.0724	1.7181	0.0000	72.0256
Water						0.0000	0.0000		0.0000	0.0000	28.4036	83.5014	111.9051	2.9237	0.0702	205.9180
Total	**0.6405**	**0.2247**	**0.6814**	**2.1100e-003**	**0.1272**	**0.0113**	**0.1385**	**0.0340**	**0.0112**	**0.0452**	**57.4760**	**622.6085**	**680.0845**	**4.6724**	**0.0772**	**819.9090**

2.2 Overall Operational

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	0.5712	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3100e-003	2.3100e-003	1.0000e-005	0.0000	2.4600e-003
Energy	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	421.5126	421.5126	0.0238	7.0300e-003	424.2015
Mobile	0.0545	0.0896	0.5668	1.3000e-003	0.1272	1.0200e-003	0.1282	0.0340	9.5000e-004	0.0349	0.0000	117.5922	117.5922	6.7700e-003	0.0000	117.7615
Waste						0.0000	0.0000		0.0000	0.0000	29.0724	0.0000	29.0724	1.7181	0.0000	72.0256
Water						0.0000	0.0000		0.0000	0.0000	28.4036	83.5014	111.9051	2.9237	0.0702	205.9180
Total	**0.6405**	**0.2247**	**0.6814**	**2.1100e-003**	**0.1272**	**0.0113**	**0.1385**	**0.0340**	**0.0112**	**0.0452**	**57.4760**	**622.6085**	**680.0845**	**4.6724**	**0.0772**	**819.9090**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

McLaren Phase 3 - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2019	2/28/2020	5	65	
2	Site Preparation	Site Preparation	3/1/2020	5/8/2020	5	50	
3	Grading	Grading	5/10/2020	5/27/2020	5	13	
4	Building Construction	Building Construction	6/1/2020	6/29/2021	5	282	
5	Paving	Paving	2/1/2021	3/3/2021	5	23	
6	Architectural Coating	Architectural Coating	12/1/2020	1/27/2021	5	42	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 193,500; Non-Residential Outdoor: 64,500; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Off-Highway Trucks	1	8.00	402	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	1	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	182.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	49.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6700e-003	0.0000	6.6700e-003	1.0100e-003	0.0000	1.0100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0465	0.4727	0.2866	5.7000e-004		0.0226	0.0226		0.0210	0.0210	0.0000	51.1389	51.1389	0.0147	0.0000	51.5070
Total	**0.0465**	**0.4727**	**0.2866**	**5.7000e-004**	**6.6700e-003**	**0.0226**	**0.0293**	**1.0100e-003**	**0.0210**	**0.0220**	**0.0000**	**51.1389**	**51.1389**	**0.0147**	**0.0000**	**51.5070**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	9.5900e-003	1.8900e-003	2.0000e-005	1.2900e-003	4.0000e-005	1.3200e-003	3.3000e-004	4.0000e-005	3.7000e-004	0.0000	2.3736	2.3736	1.1000e-004	0.0000	2.3764
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.4000e-004	5.5300e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3901	1.3901	4.0000e-005	0.0000	1.3911
Total	**1.0000e-003**	**0.0101**	**7.4200e-003**	**4.0000e-005**	**2.8600e-003**	**5.0000e-005**	**2.9000e-003**	**7.5000e-004**	**5.0000e-005**	**8.0000e-004**	**0.0000**	**3.7637**	**3.7637**	**1.5000e-004**	**0.0000**	**3.7674**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6700e-003	0.0000	6.6700e-003	1.0100e-003	0.0000	1.0100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0465	0.4727	0.2866	5.7000e-004		0.0226	0.0226		0.0210	0.0210	0.0000	51.1388	51.1388	0.0147	0.0000	51.5069
Total	**0.0465**	**0.4727**	**0.2866**	**5.7000e-004**	**6.6700e-003**	**0.0226**	**0.0293**	**1.0100e-003**	**0.0210**	**0.0220**	**0.0000**	**51.1388**	**51.1388**	**0.0147**	**0.0000**	**51.5069**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	9.5900e-003	1.8900e-003	2.0000e-005	1.2900e-003	4.0000e-005	1.3200e-003	3.3000e-004	4.0000e-005	3.7000e-004	0.0000	2.3736	2.3736	1.1000e-004	0.0000	2.3764
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.4000e-004	5.5300e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3901	1.3901	4.0000e-005	0.0000	1.3911
Total	**1.0000e-003**	**0.0101**	**7.4200e-003**	**4.0000e-005**	**2.8600e-003**	**5.0000e-005**	**2.9000e-003**	**7.5000e-004**	**5.0000e-005**	**8.0000e-004**	**0.0000**	**3.7637**	**3.7637**	**1.5000e-004**	**0.0000**	**3.7674**

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0130	0.0000	0.0130	1.9700e-003	0.0000	1.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0855	0.8498	0.5496	1.1200e-003		0.0406	0.0406		0.0377	0.0377	0.0000	98.0359	98.0359	0.0287	0.0000	98.7534
Total	**0.0855**	**0.8498**	**0.5496**	**1.1200e-003**	**0.0130**	**0.0406**	**0.0536**	**1.9700e-003**	**0.0377**	**0.0397**	**0.0000**	**98.0359**	**98.0359**	**0.0287**	**0.0000**	**98.7534**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-004	0.0175	3.5800e-003	5.0000e-005	1.4100e-003	6.0000e-005	1.4700e-003	3.8000e-004	5.0000e-005	4.3000e-004	0.0000	4.5915	4.5915	2.1000e-004	0.0000	4.5968
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.2000e-004	9.6900e-003	3.0000e-005	3.0700e-003	2.0000e-005	3.0900e-003	8.2000e-004	2.0000e-005	8.3000e-004	0.0000	2.6322	2.6322	6.0000e-005	0.0000	2.6338
Total	**1.7900e-003**	**0.0184**	**0.0133**	**8.0000e-005**	**4.4800e-003**	**8.0000e-005**	**4.5600e-003**	**1.2000e-003**	**7.0000e-005**	**1.2600e-003**	**0.0000**	**7.2237**	**7.2237**	**2.7000e-004**	**0.0000**	**7.2305**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0130	0.0000	0.0130	1.9700e-003	0.0000	1.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0855	0.8498	0.5496	1.1200e-003		0.0406	0.0406		0.0377	0.0377	0.0000	98.0357	98.0357	0.0287	0.0000	98.7533
Total	**0.0855**	**0.8498**	**0.5496**	**1.1200e-003**	**0.0130**	**0.0406**	**0.0536**	**1.9700e-003**	**0.0377**	**0.0397**	**0.0000**	**98.0357**	**98.0357**	**0.0287**	**0.0000**	**98.7533**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-004	0.0175	3.5800e-003	5.0000e-005	1.4100e-003	6.0000e-005	1.4700e-003	3.8000e-004	5.0000e-005	4.3000e-004	0.0000	4.5915	4.5915	2.1000e-004	0.0000	4.5968
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.2000e-004	9.6900e-003	3.0000e-005	3.0700e-003	2.0000e-005	3.0900e-003	8.2000e-004	2.0000e-005	8.3000e-004	0.0000	2.6322	2.6322	6.0000e-005	0.0000	2.6338
Total	**1.7900e-003**	**0.0184**	**0.0133**	**8.0000e-005**	**4.4800e-003**	**8.0000e-005**	**4.5600e-003**	**1.2000e-003**	**7.0000e-005**	**1.2600e-003**	**0.0000**	**7.2237**	**7.2237**	**2.7000e-004**	**0.0000**	**7.2305**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4517	0.0000	0.4517	0.2483	0.0000	0.2483	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1185	1.2185	0.6331	1.2800e-003		0.0607	0.0607		0.0558	0.0558	0.0000	112.5754	112.5754	0.0364	0.0000	113.4856
Total	**0.1185**	**1.2185**	**0.6331**	**1.2800e-003**	**0.4517**	**0.0607**	**0.5124**	**0.2483**	**0.0558**	**0.3041**	**0.0000**	**112.5754**	**112.5754**	**0.0364**	**0.0000**	**113.4856**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.1900e-003	0.0125	4.0000e-005	3.9700e-003	3.0000e-005	3.9900e-003	1.0500e-003	2.0000e-005	1.0800e-003	0.0000	3.4008	3.4008	8.0000e-005	0.0000	3.4028
Total	**1.6600e-003**	**1.1900e-003**	**0.0125**	**4.0000e-005**	**3.9700e-003**	**3.0000e-005**	**3.9900e-003**	**1.0500e-003**	**2.0000e-005**	**1.0800e-003**	**0.0000**	**3.4008**	**3.4008**	**8.0000e-005**	**0.0000**	**3.4028**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4517	0.0000	0.4517	0.2483	0.0000	0.2483	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1185	1.2185	0.6331	1.2800e-003		0.0607	0.0607		0.0558	0.0558	0.0000	112.5752	112.5752	0.0364	0.0000	113.4855
Total	**0.1185**	**1.2185**	**0.6331**	**1.2800e-003**	**0.4517**	**0.0607**	**0.5124**	**0.2483**	**0.0558**	**0.3041**	**0.0000**	**112.5752**	**112.5752**	**0.0364**	**0.0000**	**113.4855**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.1900e-003	0.0125	4.0000e-005	3.9700e-003	3.0000e-005	3.9900e-003	1.0500e-003	2.0000e-005	1.0800e-003	0.0000	3.4008	3.4008	8.0000e-005	0.0000	3.4028
Total	**1.6600e-003**	**1.1900e-003**	**0.0125**	**4.0000e-005**	**3.9700e-003**	**3.0000e-005**	**3.9900e-003**	**1.0500e-003**	**2.0000e-005**	**1.0800e-003**	**0.0000**	**3.4008**	**3.4008**	**8.0000e-005**	**0.0000**	**3.4028**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0426	0.0000	0.0426	0.0219	0.0000	0.0219	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0201	0.2126	0.1291	2.8000e-004		9.7700e-003	9.7700e-003		8.9900e-003	8.9900e-003	0.0000	24.4778	24.4778	7.9200e-003	0.0000	24.6758
Total	**0.0201**	**0.2126**	**0.1291**	**2.8000e-004**	**0.0426**	**9.7700e-003**	**0.0524**	**0.0219**	**8.9900e-003**	**0.0309**	**0.0000**	**24.4778**	**24.4778**	**7.9200e-003**	**0.0000**	**24.6758**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.8000e-004	2.9300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7958	0.7958	2.0000e-005	0.0000	0.7963
Total	**3.9000e-004**	**2.8000e-004**	**2.9300e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7958**	**0.7958**	**2.0000e-005**	**0.0000**	**0.7963**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0426	0.0000	0.0426	0.0219	0.0000	0.0219	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0201	0.2126	0.1291	2.8000e-004		9.7700e-003	9.7700e-003		8.9900e-003	8.9900e-003	0.0000	24.4778	24.4778	7.9200e-003	0.0000	24.6757
Total	**0.0201**	**0.2126**	**0.1291**	**2.8000e-004**	**0.0426**	**9.7700e-003**	**0.0524**	**0.0219**	**8.9900e-003**	**0.0309**	**0.0000**	**24.4778**	**24.4778**	**7.9200e-003**	**0.0000**	**24.6757**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.8000e-004	2.9300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7958	0.7958	2.0000e-005	0.0000	0.7963
Total	**3.9000e-004**	**2.8000e-004**	**2.9300e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7958**	**0.7958**	**2.0000e-005**	**0.0000**	**0.7963**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1632	1.4773	1.2973	2.0700e-003		0.0860	0.0860		0.0809	0.0809	0.0000	178.3397	178.3397	0.0435	0.0000	179.4274
Total	**0.1632**	**1.4773**	**1.2973**	**2.0700e-003**		**0.0860**	**0.0860**		**0.0809**	**0.0809**	**0.0000**	**178.3397**	**178.3397**	**0.0435**	**0.0000**	**179.4274**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4100e-003	0.1841	0.0490	4.4000e-004	0.0106	9.1000e-004	0.0116	3.0800e-003	8.7000e-004	3.9500e-003	0.0000	42.2753	42.2753	1.9400e-003	0.0000	42.3238
Worker	0.0125	9.0100e-003	0.0944	2.8000e-004	0.0299	1.9000e-004	0.0301	7.9600e-003	1.8000e-004	8.1400e-003	0.0000	25.6620	25.6620	6.3000e-004	0.0000	25.6778
Total	**0.0189**	**0.1931**	**0.1435**	**7.2000e-004**	**0.0406**	**1.1000e-003**	**0.0417**	**0.0110**	**1.0500e-003**	**0.0121**	**0.0000**	**67.9373**	**67.9373**	**2.5700e-003**	**0.0000**	**68.0016**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1632	1.4773	1.2973	2.0700e-003		0.0860	0.0860		0.0809	0.0809	0.0000	178.3395	178.3395	0.0435	0.0000	179.4272
Total	**0.1632**	**1.4773**	**1.2973**	**2.0700e-003**		**0.0860**	**0.0860**		**0.0809**	**0.0809**	**0.0000**	**178.3395**	**178.3395**	**0.0435**	**0.0000**	**179.4272**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4100e-003	0.1841	0.0490	4.4000e-004	0.0106	9.1000e-004	0.0116	3.0800e-003	8.7000e-004	3.9500e-003	0.0000	42.2753	42.2753	1.9400e-003	0.0000	42.3238
Worker	0.0125	9.0100e-003	0.0944	2.8000e-004	0.0299	1.9000e-004	0.0301	7.9600e-003	1.8000e-004	8.1400e-003	0.0000	25.6620	25.6620	6.3000e-004	0.0000	25.6778
Total	**0.0189**	**0.1931**	**0.1435**	**7.2000e-004**	**0.0406**	**1.1000e-003**	**0.0417**	**0.0110**	**1.0500e-003**	**0.0121**	**0.0000**	**67.9373**	**67.9373**	**2.5700e-003**	**0.0000**	**68.0016**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1217	1.1157	1.0608	1.7200e-003		0.0614	0.0614		0.0577	0.0577	0.0000	148.2479	148.2479	0.0358	0.0000	149.1420
Total	**0.1217**	**1.1157**	**1.0608**	**1.7200e-003**		**0.0614**	**0.0614**		**0.0577**	**0.0577**	**0.0000**	**148.2479**	**148.2479**	**0.0358**	**0.0000**	**149.1420**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3800e-003	0.1381	0.0368	3.6000e-004	8.8400e-003	3.1000e-004	9.1500e-003	2.5600e-003	2.9000e-004	2.8500e-003	0.0000	34.8136	34.8136	1.5200e-003	0.0000	34.8515
Worker	9.6600e-003	6.6900e-003	0.0717	2.3000e-004	0.0249	1.6000e-004	0.0250	6.6100e-003	1.4000e-004	6.7600e-003	0.0000	20.5892	20.5892	4.7000e-004	0.0000	20.6009
Total	**0.0140**	**0.1448**	**0.1085**	**5.9000e-004**	**0.0337**	**4.7000e-004**	**0.0342**	**9.1700e-003**	**4.3000e-004**	**9.6100e-003**	**0.0000**	**55.4027**	**55.4027**	**1.9900e-003**	**0.0000**	**55.4523**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1217	1.1157	1.0608	1.7200e-003		0.0614	0.0614		0.0577	0.0577	0.0000	148.2477	148.2477	0.0358	0.0000	149.1418
Total	**0.1217**	**1.1157**	**1.0608**	**1.7200e-003**		**0.0614**	**0.0614**		**0.0577**	**0.0577**	**0.0000**	**148.2477**	**148.2477**	**0.0358**	**0.0000**	**149.1418**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3800e-003	0.1381	0.0368	3.6000e-004	8.8400e-003	3.1000e-004	9.1500e-003	2.5600e-003	2.9000e-004	2.8500e-003	0.0000	34.8136	34.8136	1.5200e-003	0.0000	34.8515
Worker	9.6600e-003	6.6900e-003	0.0717	2.3000e-004	0.0249	1.6000e-004	0.0250	6.6100e-003	1.4000e-004	6.7600e-003	0.0000	20.5892	20.5892	4.7000e-004	0.0000	20.6009
Total	**0.0140**	**0.1448**	**0.1085**	**5.9000e-004**	**0.0337**	**4.7000e-004**	**0.0342**	**9.1700e-003**	**4.3000e-004**	**9.6100e-003**	**0.0000**	**55.4027**	**55.4027**	**1.9900e-003**	**0.0000**	**55.4523**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1247	0.1410	2.2000e-004		6.6600e-003	6.6600e-003		6.1400e-003	6.1400e-003	0.0000	18.8262	18.8262	5.9200e-003	0.0000	18.9741
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1247**	**0.1410**	**2.2000e-004**		**6.6600e-003**	**6.6600e-003**		**6.1400e-003**	**6.1400e-003**	**0.0000**	**18.8262**	**18.8262**	**5.9200e-003**	**0.0000**	**18.9741**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.9000e-004	5.2600e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5101	1.5101	3.0000e-005	0.0000	1.5109
Total	**7.1000e-004**	**4.9000e-004**	**5.2600e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5101**	**1.5101**	**3.0000e-005**	**0.0000**	**1.5109**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1247	0.1410	2.2000e-004		6.6600e-003	6.6600e-003		6.1400e-003	6.1400e-003	0.0000	18.8262	18.8262	5.9200e-003	0.0000	18.9741
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1247**	**0.1410**	**2.2000e-004**		**6.6600e-003**	**6.6600e-003**		**6.1400e-003**	**6.1400e-003**	**0.0000**	**18.8262**	**18.8262**	**5.9200e-003**	**0.0000**	**18.9741**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.9000e-004	5.2600e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5101	1.5101	3.0000e-005	0.0000	1.5109
Total	**7.1000e-004**	**4.9000e-004**	**5.2600e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5101**	**1.5101**	**3.0000e-005**	**0.0000**	**1.5109**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3684					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7900e-003	0.0194	0.0211	3.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	2.9362	2.9362	2.3000e-004	0.0000	2.9419
Total	**0.3712**	**0.0194**	**0.0211**	**3.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**2.9362**	**2.9362**	**2.3000e-004**	**0.0000**	**2.9419**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.7000e-004	2.8800e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7822	0.7822	2.0000e-005	0.0000	0.7827
Total	**3.8000e-004**	**2.7000e-004**	**2.8800e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7822**	**0.7822**	**2.0000e-005**	**0.0000**	**0.7827**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3684					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7900e-003	0.0194	0.0211	3.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	2.9362	2.9362	2.3000e-004	0.0000	2.9419
Total	**0.3712**	**0.0194**	**0.0211**	**3.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**2.9362**	**2.9362**	**2.3000e-004**	**0.0000**	**2.9419**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.7000e-004	2.8800e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7822	0.7822	2.0000e-005	0.0000	0.7827
Total	**3.8000e-004**	**2.7000e-004**	**2.8800e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7822**	**0.7822**	**2.0000e-005**	**0.0000**	**0.7827**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3043					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0800e-003	0.0145	0.0173	3.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	2.4256	2.4256	1.7000e-004	0.0000	2.4298
Total	**0.3064**	**0.0145**	**0.0173**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**2.4256**	**2.4256**	**1.7000e-004**	**0.0000**	**2.4298**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.1700e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6237	0.6237	1.0000e-005	0.0000	0.6241
Total	**2.9000e-004**	**2.0000e-004**	**2.1700e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6237**	**0.6237**	**1.0000e-005**	**0.0000**	**0.6241**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3043					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0800e-003	0.0145	0.0173	3.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	2.4256	2.4256	1.7000e-004	0.0000	2.4298
Total	**0.3064**	**0.0145**	**0.0173**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**2.4256**	**2.4256**	**1.7000e-004**	**0.0000**	**2.4298**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.1700e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6237	0.6237	1.0000e-005	0.0000	0.6241
Total	**2.9000e-004**	**2.0000e-004**	**2.1700e-003**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6237**	**0.6237**	**1.0000e-005**	**0.0000**	**0.6241**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0545	0.0896	0.5668	1.3000e-003	0.1272	1.0200e-003	0.1282	0.0340	9.5000e-004	0.0349	0.0000	117.5922	117.5922	6.7700e-003	0.0000	117.7615
Unmitigated	0.0545	0.0896	0.5668	1.3000e-003	0.1272	1.0200e-003	0.1282	0.0340	9.5000e-004	0.0349	0.0000	117.5922	117.5922	6.7700e-003	0.0000	117.7615

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	74.25	74.25	74.25	216,774	216,774
General Office Building	53.46	53.46	53.46	127,756	127,756
Total	127.71	127.71	127.71	344,530	344,530

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.595314	0.040245	0.183353	0.116387	0.016315	0.004509	0.008324	0.005108	0.001111	0.000398	0.025249	0.000530	0.003158
General Light Industry	0.595314	0.040245	0.183353	0.116387	0.016315	0.004509	0.008324	0.005108	0.001111	0.000398	0.025249	0.000530	0.003158

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	274.4548	274.4548	0.0210	4.3300e-003	276.2698
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	274.4548	274.4548	0.0210	4.3300e-003	276.2698
NaturalGas Mitigated	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	147.0578	147.0578	2.8200e-003	2.7000e-003	147.9317
NaturalGas Unmitigated	0.0149	0.1351	0.1135	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	147.0578	147.0578	2.8200e-003	2.7000e-003	147.9317

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	844047	4.5500e-003	0.0414	0.0348	2.5000e-004		3.1400e-003	3.1400e-003		3.1400e-003	3.1400e-003	0.0000	45.0416	45.0416	8.6000e-004	8.3000e-004	45.3092
General Light Industry	1.91171e+006	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003	0.0000	102.0163	102.0163	1.9600e-003	1.8700e-003	102.6225
Total		**0.0149**	**0.1351**	**0.1135**	**8.1000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**147.0578**	**147.0578**	**2.8200e-003**	**2.7000e-003**	**147.9317**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	844047	4.5500e-003	0.0414	0.0348	2.5000e-004		3.1400e-003	3.1400e-003		3.1400e-003	3.1400e-003	0.0000	45.0416	45.0416	8.6000e-004	8.3000e-004	45.3092
General Light Industry	1.91171e+006	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003	0.0000	102.0163	102.0163	1.9600e-003	1.8700e-003	102.6225
Total		**0.0149**	**0.1351**	**0.1135**	**8.1000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**147.0578**	**147.0578**	**2.8200e-003**	**2.7000e-003**	**147.9317**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	625688	107.8467	8.2300e-003	1.7000e-003	108.5599
General Office Building	966600	166.6081	0.0127	2.6300e-003	167.7099
Total		**274.4548**	**0.0209**	**4.3300e-003**	**276.2698**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	625688	107.8467	8.2300e-003	1.7000e-003	108.5599
General Office Building	966600	166.6081	0.0127	2.6300e-003	167.7099
Total		**274.4548**	**0.0209**	**4.3300e-003**	**276.2698**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5712	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3100e-003	2.3100e-003	1.0000e-005	0.0000	2.4600e-003
Unmitigated	0.5712	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3100e-003	2.3100e-003	1.0000e-005	0.0000	2.4600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0673					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5038					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3100e-003	2.3100e-003	1.0000e-005	0.0000	2.4600e-003
Total	**0.5712**	**1.0000e-005**	**1.1900e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.3100e-003**	**2.3100e-003**	**1.0000e-005**	**0.0000**	**2.4600e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0673					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5038					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3100e-003	2.3100e-003	1.0000e-005	0.0000	2.4600e-003
Total	**0.5712**	**1.0000e-005**	**1.1900e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.3100e-003**	**2.3100e-003**	**1.0000e-005**	**0.0000**	**2.4600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	111.9051	2.9237	0.0702	205.9180
Unmitigated	111.9051	2.9237	0.0702	205.9180

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	89.5297 / 0	111.9051	2.9237	0.0702	205.9180
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**111.9051**	**2.9237**	**0.0702**	**205.9180**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	89.5297 / 0	111.9051	2.9237	0.0702	205.9180
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**111.9051**	**2.9237**	**0.0702**	**205.9180**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	29.0724	1.7181	0.0000	72.0256
Unmitigated	29.0724	1.7181	0.0000	72.0256

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	93	18.8782	1.1157	0.0000	46.7698
General Office Building	50.22	10.1942	0.6025	0.0000	25.2557
Total		**29.0724**	**1.7181**	**0.0000**	**72.0256**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	93	18.8782	1.1157	0.0000	46.7698
General Office Building	50.22	10.1942	0.6025	0.0000	25.2557
Total		**29.0724**	**1.7181**	**0.0000**	**72.0256**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

McLaren Phase 4

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	17.00	1000sqft	0.00	17,000.00	0
General Light Industry	61.00	1000sqft	0.00	61,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Utility Company is Silicon Valley Power. Using PG&E CH4 and N2O intensity factors to be conservative.

Land Use - provided landuse

Construction Phase - provided schedule

Off-road Equipment -

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Off-road Equipment - provided equipment info

Trips and VMT - provided info

Demolition - provided equipment info

Grading - provided info

Architectural Coating - provided info

Vehicle Trips - project-specific data

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - adjusted for 2016 title 24

Water And Wastewater - project-specific data

Solid Waste -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0

tblConstructionPhase	NumDays	0.00	42.00
tblConstructionPhase	NumDays	0.00	282.00
tblConstructionPhase	NumDays	0.00	13.00
tblConstructionPhase	NumDays	0.00	23.00
tblConstructionPhase	NumDays	0.00	50.00
tblConstructionPhase	PhaseEndDate	12/26/2022	3/1/2022
tblConstructionPhase	PhaseEndDate	9/26/2022	9/22/2022
tblConstructionPhase	PhaseEndDate	8/26/2021	8/25/2021
tblConstructionPhase	PhaseEndDate	10/27/2022	4/13/2022
tblConstructionPhase	PhaseStartDate	10/28/2022	1/2/2022
tblConstructionPhase	PhaseStartDate	8/27/2021	8/25/2021
tblConstructionPhase	PhaseStartDate	8/10/2021	8/9/2021
tblConstructionPhase	PhaseStartDate	9/27/2022	3/14/2022
tblEnergyUse	T24E	1.55	1.47
tblEnergyUse	T24E	6.40	6.08
tblEnergyUse	T24NG	19.81	18.82
tblEnergyUse	T24NG	16.39	15.57
tblLandUse	LotAcreage	0.39	0.00
tblLandUse	LotAcreage	1.40	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	1.00	6.00

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	380
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblProjectCharacteristics	OperationalYear	2018	2022
tblVehicleTrips	ST_TR	1.32	0.99
tblVehicleTrips	ST_TR	2.46	0.99
tblVehicleTrips	SU_TR	0.68	0.99
tblVehicleTrips	SU_TR	1.05	0.99
tblVehicleTrips	WD_TR	6.97	0.99
tblVehicleTrips	WD_TR	11.03	0.99
tblWater	IndoorWaterUseRate	14,106,250.00	74,439,454.00
tblWater	IndoorWaterUseRate	3,021,473.72	0.00
tblWater	OutdoorWaterUseRate	1,851,870.99	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1375	1.1741	0.9351	2.1100e-003	0.0629	0.0509	0.1138	0.0226	0.0484	0.0710	0.0000	180.8670	180.8670	0.0376	0.0000	181.8057
2022	0.5875	1.4130	1.4393	2.8500e-003	0.0335	0.0617	0.0952	9.1000e-003	0.0594	0.0685	0.0000	242.1094	242.1094	0.0362	0.0000	243.0150
Maximum	**0.5875**	**1.4130**	**1.4393**	**2.8500e-003**	**0.0629**	**0.0617**	**0.1138**	**0.0226**	**0.0594**	**0.0710**	**0.0000**	**242.1094**	**242.1094**	**0.0376**	**0.0000**	**243.0150**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1375	1.1741	0.9351	2.1100e-003	0.0629	0.0509	0.1138	0.0226	0.0484	0.0710	0.0000	180.8668	180.8668	0.0376	0.0000	181.8055
2022	0.5875	1.4130	1.4393	2.8500e-003	0.0335	0.0617	0.0952	9.1000e-003	0.0594	0.0685	0.0000	242.1092	242.1092	0.0362	0.0000	243.0148
Maximum	**0.5875**	**1.4130**	**1.4393**	**2.8500e-003**	**0.0629**	**0.0617**	**0.1138**	**0.0226**	**0.0594**	**0.0710**	**0.0000**	**242.1092**	**242.1092**	**0.0376**	**0.0000**	**243.0148**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

McLaren Phase 4 - Santa Clara County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2021	8-31-2021	0.5533	0.5533
2	9-1-2021	11-30-2021	0.5523	0.5523
3	12-1-2021	2-28-2022	0.9526	0.9526
4	3-1-2022	5-31-2022	0.6018	0.6018
5	6-1-2022	8-31-2022	0.5121	0.5121
6	9-1-2022	11-30-2022	0.1225	0.1225
		Highest	0.9526	0.9526

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Energy	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	237.3190	237.3190	0.0126	3.9900e-003	238.8233
Mobile	0.0321	0.0519	0.3327	7.9000e-004	0.0802	6.2000e-004	0.0808	0.0214	5.7000e-004	0.0220	0.0000	71.4879	71.4879	4.1000e-003	0.0000	71.5904
Waste						0.0000	0.0000		0.0000	0.0000	18.5635	0.0000	18.5635	1.0971	0.0000	45.9903
Water						0.0000	0.0000		0.0000	0.0000	23.6162	69.4273	93.0435	2.4309	0.0584	171.2105
Total	**0.3873**	**0.1411**	**0.4084**	**1.3300e-003**	**0.0802**	**7.4000e-003**	**0.0876**	**0.0214**	**7.3500e-003**	**0.0287**	**42.1797**	**378.2355**	**420.4152**	**3.5446**	**0.0624**	**527.6160**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Energy	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	237.3190	237.3190	0.0126	3.9900e-003	238.8233
Mobile	0.0321	0.0519	0.3327	7.9000e-004	0.0802	6.2000e-004	0.0808	0.0214	5.7000e-004	0.0220	0.0000	71.4879	71.4879	4.1000e-003	0.0000	71.5904
Waste						0.0000	0.0000		0.0000	0.0000	18.5635	0.0000	18.5635	1.0971	0.0000	45.9903
Water						0.0000	0.0000		0.0000	0.0000	23.6162	69.4273	93.0435	2.4309	0.0584	171.2105
Total	**0.3873**	**0.1411**	**0.4084**	**1.3300e-003**	**0.0802**	**7.4000e-003**	**0.0876**	**0.0214**	**7.3500e-003**	**0.0287**	**42.1797**	**378.2355**	**420.4152**	**3.5446**	**0.0624**	**527.6160**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

McLaren Phase 4 - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2021	8/9/2021	5	50	
2	Grading	Grading	8/9/2021	8/25/2021	5	13	
3	Building Construction	Building Construction	8/25/2021	9/22/2022	5	282	
4	Paving	Paving	3/14/2022	4/13/2022	5	23	
5	Architectural Coating	Architectural Coating	1/2/2022	3/1/2022	5	42	

Acres of Grading (Site Preparation Phase): 25

Acres of Grading (Grading Phase): 4.88

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 117,000; Non-Residential Outdoor: 39,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Graders	1	6.00	187	0.41
Grading	Off-Highway Trucks	1	8.00	402	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	6.00	132	0.36
Paving	Rollers	1	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	31.00	13.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0312	0.3271	0.1908	5.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	50.3739	50.3739	0.0163	0.0000	50.7812
Total	**0.0312**	**0.3271**	**0.1908**	**5.7000e-004**	**0.0133**	**0.0123**	**0.0256**	**1.4300e-003**	**0.0113**	**0.0128**	**0.0000**	**50.3739**	**50.3739**	**0.0163**	**0.0000**	**50.7812**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.3000e-004	4.5800e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3131	1.3131	3.0000e-005	0.0000	1.3138
Total	**6.2000e-004**	**4.3000e-004**	**4.5800e-003**	**1.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3131**	**1.3131**	**3.0000e-005**	**0.0000**	**1.3138**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0312	0.3271	0.1908	5.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	50.3738	50.3738	0.0163	0.0000	50.7811
Total	**0.0312**	**0.3271**	**0.1908**	**5.7000e-004**	**0.0133**	**0.0123**	**0.0256**	**1.4300e-003**	**0.0113**	**0.0128**	**0.0000**	**50.3738**	**50.3738**	**0.0163**	**0.0000**	**50.7811**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.3000e-004	4.5800e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3131	1.3131	3.0000e-005	0.0000	1.3138
Total	**6.2000e-004**	**4.3000e-004**	**4.5800e-003**	**1.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3131**	**1.3131**	**3.0000e-005**	**0.0000**	**1.3138**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0320	0.0000	0.0320	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1471	0.0885	2.2000e-004		6.5300e-003	6.5300e-003		6.0900e-003	6.0900e-003	0.0000	19.0832	19.0832	5.2400e-003	0.0000	19.2143
Total	**0.0148**	**0.1471**	**0.0885**	**2.2000e-004**	**0.0320**	**6.5300e-003**	**0.0385**	**0.0164**	**6.0900e-003**	**0.0225**	**0.0000**	**19.0832**	**19.0832**	**5.2400e-003**	**0.0000**	**19.2143**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.8000e-004	1.9300e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5548	0.5548	1.0000e-005	0.0000	0.5551
Total	**2.6000e-004**	**1.8000e-004**	**1.9300e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5548**	**0.5548**	**1.0000e-005**	**0.0000**	**0.5551**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0320	0.0000	0.0320	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1471	0.0885	2.2000e-004		6.5300e-003	6.5300e-003		6.0900e-003	6.0900e-003	0.0000	19.0832	19.0832	5.2400e-003	0.0000	19.2143
Total	**0.0148**	**0.1471**	**0.0885**	**2.2000e-004**	**0.0320**	**6.5300e-003**	**0.0385**	**0.0164**	**6.0900e-003**	**0.0225**	**0.0000**	**19.0832**	**19.0832**	**5.2400e-003**	**0.0000**	**19.2143**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.8000e-004	1.9300e-003	1.0000e-005	6.7000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5548	0.5548	1.0000e-005	0.0000	0.5551
Total	**2.6000e-004**	**1.8000e-004**	**1.9300e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5548**	**0.5548**	**1.0000e-005**	**0.0000**	**0.5551**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0843	0.6341	0.5998	1.0300e-003		0.0318	0.0318		0.0307	0.0307	0.0000	84.4197	84.4197	0.0151	0.0000	84.7964
Total	**0.0843**	**0.6341**	**0.5998**	**1.0300e-003**		**0.0318**	**0.0318**		**0.0307**	**0.0307**	**0.0000**	**84.4197**	**84.4197**	**0.0151**	**0.0000**	**84.7964**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9700e-003	0.0621	0.0165	1.6000e-004	3.9800e-003	1.4000e-004	4.1100e-003	1.1500e-003	1.3000e-004	1.2800e-003	0.0000	15.6583	15.6583	6.8000e-004	0.0000	15.6754
Worker	4.4400e-003	3.0700e-003	0.0330	1.0000e-004	0.0114	7.0000e-005	0.0115	3.0400e-003	7.0000e-005	3.1100e-003	0.0000	9.4641	9.4641	2.2000e-004	0.0000	9.4694
Total	**6.4100e-003**	**0.0652**	**0.0495**	**2.6000e-004**	**0.0154**	**2.1000e-004**	**0.0156**	**4.1900e-003**	**2.0000e-004**	**4.3900e-003**	**0.0000**	**25.1224**	**25.1224**	**9.0000e-004**	**0.0000**	**25.1448**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0843	0.6341	0.5998	1.0300e-003		0.0318	0.0318		0.0307	0.0307	0.0000	84.4196	84.4196	0.0151	0.0000	84.7963
Total	**0.0843**	**0.6341**	**0.5998**	**1.0300e-003**		**0.0318**	**0.0318**		**0.0307**	**0.0307**	**0.0000**	**84.4196**	**84.4196**	**0.0151**	**0.0000**	**84.7963**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9700e-003	0.0621	0.0165	1.6000e-004	3.9800e-003	1.4000e-004	4.1100e-003	1.1500e-003	1.3000e-004	1.2800e-003	0.0000	15.6583	15.6583	6.8000e-004	0.0000	15.6754
Worker	4.4400e-003	3.0700e-003	0.0330	1.0000e-004	0.0114	7.0000e-005	0.0115	3.0400e-003	7.0000e-005	3.1100e-003	0.0000	9.4641	9.4641	2.2000e-004	0.0000	9.4694
Total	**6.4100e-003**	**0.0652**	**0.0495**	**2.6000e-004**	**0.0154**	**2.1000e-004**	**0.0156**	**4.1900e-003**	**2.0000e-004**	**4.3900e-003**	**0.0000**	**25.1224**	**25.1224**	**9.0000e-004**	**0.0000**	**25.1448**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1558	1.1815	1.2027	2.0800e-003		0.0557	0.0557		0.0538	0.0538	0.0000	171.5902	171.5902	0.0299	0.0000	172.3373
Total	**0.1558**	**1.1815**	**1.2027**	**2.0800e-003**		**0.0557**	**0.0557**		**0.0538**	**0.0538**	**0.0000**	**171.5902**	**171.5902**	**0.0299**	**0.0000**	**172.3373**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7400e-003	0.1193	0.0317	3.3000e-004	8.0800e-003	2.4000e-004	8.3300e-003	2.3400e-003	2.3000e-004	2.5700e-003	0.0000	31.5173	31.5173	1.3200e-003	0.0000	31.5504
Worker	8.4200e-003	5.6100e-003	0.0616	2.0000e-004	0.0232	1.4000e-004	0.0234	6.1800e-003	1.3000e-004	6.3100e-003	0.0000	18.5348	18.5348	3.9000e-004	0.0000	18.5446
Total	**0.0122**	**0.1249**	**0.0932**	**5.3000e-004**	**0.0313**	**3.8000e-004**	**0.0317**	**8.5200e-003**	**3.6000e-004**	**8.8800e-003**	**0.0000**	**50.0521**	**50.0521**	**1.7100e-003**	**0.0000**	**50.0950**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1558	1.1815	1.2027	2.0800e-003		0.0557	0.0557		0.0538	0.0538	0.0000	171.5900	171.5900	0.0299	0.0000	172.3371
Total	**0.1558**	**1.1815**	**1.2027**	**2.0800e-003**		**0.0557**	**0.0557**		**0.0538**	**0.0538**	**0.0000**	**171.5900**	**171.5900**	**0.0299**	**0.0000**	**172.3371**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7400e-003	0.1193	0.0317	3.3000e-004	8.0800e-003	2.4000e-004	8.3300e-003	2.3400e-003	2.3000e-004	2.5700e-003	0.0000	31.5173	31.5173	1.3200e-003	0.0000	31.5504
Worker	8.4200e-003	5.6100e-003	0.0616	2.0000e-004	0.0232	1.4000e-004	0.0234	6.1800e-003	1.3000e-004	6.3100e-003	0.0000	18.5348	18.5348	3.9000e-004	0.0000	18.5446
Total	**0.0122**	**0.1249**	**0.0932**	**5.3000e-004**	**0.0313**	**3.8000e-004**	**0.0317**	**8.5200e-003**	**3.6000e-004**	**8.8800e-003**	**0.0000**	**50.0521**	**50.0521**	**1.7100e-003**	**0.0000**	**50.0950**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7500e-003	0.0765	0.0996	1.5000e-004		3.9000e-003	3.9000e-003		3.5900e-003	3.5900e-003	0.0000	13.3622	13.3622	4.2300e-003	0.0000	13.4681
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.7500e-003**	**0.0765**	**0.0996**	**1.5000e-004**		**3.9000e-003**	**3.9000e-003**		**3.5900e-003**	**3.5900e-003**	**0.0000**	**13.3622**	**13.3622**	**4.2300e-003**	**0.0000**	**13.4681**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.9000e-004	3.1400e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9459	0.9459	2.0000e-005	0.0000	0.9464
Total	**4.3000e-004**	**2.9000e-004**	**3.1400e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9459**	**0.9459**	**2.0000e-005**	**0.0000**	**0.9464**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7500e-003	0.0765	0.0996	1.5000e-004		3.9000e-003	3.9000e-003		3.5900e-003	3.5900e-003	0.0000	13.3622	13.3622	4.2300e-003	0.0000	13.4681
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.7500e-003**	**0.0765**	**0.0996**	**1.5000e-004**		**3.9000e-003**	**3.9000e-003**		**3.5900e-003**	**3.5900e-003**	**0.0000**	**13.3622**	**13.3622**	**4.2300e-003**	**0.0000**	**13.4681**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.9000e-004	3.1400e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9459	0.9459	2.0000e-005	0.0000	0.9464
Total	**4.3000e-004**	**2.9000e-004**	**3.1400e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9459**	**0.9459**	**2.0000e-005**	**0.0000**	**0.9464**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4067					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3000e-003	0.0296	0.0381	6.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	5.3618	5.3618	3.5000e-004	0.0000	5.3706
Total	**0.4110**	**0.0296**	**0.0381**	**6.0000e-005**		**1.7200e-003**	**1.7200e-003**		**1.7200e-003**	**1.7200e-003**	**0.0000**	**5.3618**	**5.3618**	**3.5000e-004**	**0.0000**	**5.3706**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.4000e-004	2.6500e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.7972	0.7972	2.0000e-005	0.0000	0.7976
Total	**3.6000e-004**	**2.4000e-004**	**2.6500e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7972**	**0.7972**	**2.0000e-005**	**0.0000**	**0.7976**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4067					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3000e-003	0.0296	0.0381	6.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	5.3618	5.3618	3.5000e-004	0.0000	5.3706
Total	**0.4110**	**0.0296**	**0.0381**	**6.0000e-005**		**1.7200e-003**	**1.7200e-003**		**1.7200e-003**	**1.7200e-003**	**0.0000**	**5.3618**	**5.3618**	**3.5000e-004**	**0.0000**	**5.3706**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.4000e-004	2.6500e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.7972	0.7972	2.0000e-005	0.0000	0.7976
Total	**3.6000e-004**	**2.4000e-004**	**2.6500e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7972**	**0.7972**	**2.0000e-005**	**0.0000**	**0.7976**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0321	0.0519	0.3327	7.9000e-004	0.0802	6.2000e-004	0.0808	0.0214	5.7000e-004	0.0220	0.0000	71.4879	71.4879	4.1000e-003	0.0000	71.5904
Unmitigated	0.0321	0.0519	0.3327	7.9000e-004	0.0802	6.2000e-004	0.0808	0.0214	5.7000e-004	0.0220	0.0000	71.4879	71.4879	4.1000e-003	0.0000	71.5904

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	60.55	60.55	60.55	176,790	176,790
General Office Building	16.88	16.88	16.88	40,329	40,329
Total	77.43	77.43	77.43	217,119	217,119

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.598617	0.039370	0.182503	0.115207	0.015761	0.004522	0.008524	0.005145	0.001129	0.000397	0.025244	0.000531	0.003049
General Light Industry	0.598617	0.039370	0.182503	0.115207	0.015761	0.004522	0.008524	0.005145	0.001129	0.000397	0.025244	0.000531	0.003049

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1660	140.1660	0.0107	2.2100e-003	141.0930
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1660	140.1660	0.0107	2.2100e-003	141.0930
NaturalGas Mitigated	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	97.1530	97.1530	1.8600e-003	1.7800e-003	97.7303
NaturalGas Unmitigated	9.8200e-003	0.0892	0.0750	5.4000e-004		6.7800e-003	6.7800e-003		6.7800e-003	6.7800e-003	0.0000	97.1530	97.1530	1.8600e-003	1.7800e-003	97.7303

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	265719	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1798	14.1798	2.7000e-004	2.6000e-004	14.2640
General Light Industry	1.55486e+006	8.3800e-003	0.0762	0.0640	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9732	82.9732	1.5900e-003	1.5200e-003	83.4663
Total		**9.8100e-003**	**0.0893**	**0.0750**	**5.4000e-004**		**6.7800e-003**	**6.7800e-003**		**6.7800e-003**	**6.7800e-003**	**0.0000**	**97.1530**	**97.1530**	**1.8600e-003**	**1.7800e-003**	**97.7303**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.55486e+006	8.3800e-003	0.0762	0.0640	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9732	82.9732	1.5900e-003	1.5200e-003	83.4663
General Office Building	265719	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1798	14.1798	2.7000e-004	2.6000e-004	14.2640
Total		**9.8100e-003**	**0.0893**	**0.0750**	**5.4000e-004**		**6.7800e-003**	**6.7800e-003**		**6.7800e-003**	**6.7800e-003**	**0.0000**	**97.1530**	**97.1530**	**1.8600e-003**	**1.7800e-003**	**97.7303**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	508893	87.7153	6.6900e-003	1.3800e-003	88.2954
General Office Building	304300	52.4507	4.0000e-003	8.3000e-004	52.7976
Total		**140.1660**	**0.0107**	**2.2100e-003**	**141.0929**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	508893	87.7153	6.6900e-003	1.3800e-003	88.2954
General Office Building	304300	52.4507	4.0000e-003	8.3000e-004	52.7976
Total		**140.1660**	**0.0107**	**2.2100e-003**	**141.0929**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Unmitigated	0.3454	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0407					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3046					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Total	**0.3454**	**1.0000e-005**	**7.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3900e-003**	**1.3900e-003**	**0.0000**	**0.0000**	**1.4900e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0407					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3046					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3900e-003	1.3900e-003	0.0000	0.0000	1.4900e-003
Total	**0.3454**	**1.0000e-005**	**7.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3900e-003**	**1.3900e-003**	**0.0000**	**0.0000**	**1.4900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	93.0435	2.4309	0.0584	171.2105
Unmitigated	93.0435	2.4309	0.0584	171.2105

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	74.4395 / 0	93.0435	2.4309	0.0584	171.2105
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**93.0435**	**2.4309**	**0.0584**	**171.2105**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	74.4395 / 0	93.0435	2.4309	0.0584	171.2105
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**93.0435**	**2.4309**	**0.0584**	**171.2105**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.5635	1.0971	0.0000	45.9903
Unmitigated	18.5635	1.0971	0.0000	45.9903

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	75.64	15.3542	0.9074	0.0000	38.0395
General Office Building	15.81	3.2093	0.1897	0.0000	7.9509
Total		**18.5635**	**1.0971**	**0.0000**	**45.9903**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	75.64	15.3542	0.9074	0.0000	38.0395
General Office Building	15.81	3.2093	0.1897	0.0000	7.9509
Total		**18.5635**	**1.0971**	**0.0000**	**45.9903**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

McLaren Operational
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	142.00	1000sqft	0.00	142,000.00	0
General Light Industry	271.00	1000sqft	8.97	271,000.00	50
Parking Lot	162.00	Space	0.00	64,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Utility Company is Silicon Valley Power. Use PG&E CH4 and N2O Intensity factors to be conservative.

Land Use - Assumes 50 employees, all acreage into general light industry category

Construction Phase - This is an operational run only, so no construction.

Off-road Equipment -

Trips and VMT -

Vehicle Trips - Based on 410 daily trips on all days for 413,000 sqft (from traffic study)

Vehicle Emission Factors -

Energy Use - Use 2016 Title 24 energy intensities. Data center power emissions estimated outside of CalEEMod.

Water And Wastewater - Non-default indoor water use based on 2.2 gal/day/sqft, or 327,938,264 gal/yr from project sponsor.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	T24E	1.55	1.47
tblEnergyUse	T24E	6.40	6.08
tblEnergyUse	T24NG	19.81	18.82
tblEnergyUse	T24NG	16.39	15.57
tblFleetMix	FleetMixLandUseSubType	General Office Building	General Light Industry
tblFleetMix	FleetMixLandUseSubType	General Light Industry	General Office Building
tblLandUse	LotAcreage	3.26	0.00
tblLandUse	LotAcreage	6.22	8.97
tblLandUse	LotAcreage	1.46	0.00
tblLandUse	Population	0.00	50.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	380
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblProjectCharacteristics	OperationalYear	2018	2022
tblVehicleTrips	ST_TR	1.32	1.51
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	0.68	1.51
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	6.97	1.51
tblVehicleTrips	WD_TR	11.03	0.00
tblWater	IndoorWaterUseRate	62,668,750.00	164,049,132.00
tblWater	IndoorWaterUseRate	25,238,192.22	0.00
tblWater	OutdoorWaterUseRate	15,468,569.42	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ma□imum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ma□imum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NO□**	**CO**	**SO2**	**Fugitive PM10**	**E□haust PM10**	**PM10 Total**	**Fugitive PM2.5**	**E□haust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

□uarter	**Start Date**	**End Date**	**Ma□imum Unmitigated ROG □NO□ □tons/quarter□**	**Ma□imum Mitigated ROG □NO□ □tons/quarter□**
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	1,324.5806	1,324.5806	0.0733	0.0222	1,333.0136
Mobile	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034
Waste						0.0000	0.0000		0.0000	0.0000	95.0201	0.0000	95.0201	5.6155	0.0000	235.4082
Water						0.0000	0.0000		0.0000	0.0000	52.0452	153.0033	205.0485	5.3572	0.1286	377.3125
Total	**1.9856**	**0.9068**	**1.6979**	**7.4300e-003**	**0.4443**	**0.0380**	**0.4823**	**0.1189**	**0.0377**	**0.1567**	**147.0653**	**1,912.2461**	**2,059.3114**	**11.0601**	**0.1508**	**2,380.7486**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	1,324.5806	1,324.5806	0.0733	0.0222	1,333.0136
Mobile	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034
Waste						0.0000	0.0000		0.0000	0.0000	95.0201	0.0000	95.0201	5.6155	0.0000	235.4082
Water						0.0000	0.0000		0.0000	0.0000	52.0452	153.0033	205.0485	5.3572	0.1286	377.3125

Total	**1.9856**	**0.9068**	**1.6979**	**7.4300e-003**	**0.4443**	**0.0380**	**0.4823**	**0.1189**	**0.0377**	**0.1567**	**147.0653**	**1,912.2461**	**2,059.3114**	**11.0601**	**0.1508**	**2,380.7486**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2017	4/30/2017	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034
Unmitigated	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	409.21	409.21	409.21	1,194,693	1,194,693
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	409.21	409.21	409.21	1,194,693	1,194,693

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mi□

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
General Office Building	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	837.5158	837.5158	0.0639	0.0132	843.0544
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	837.5158	837.5158	0.0639	0.0132	843.0544
NaturalGas Mitigated	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	487.0648	487.0648	9.3400e-003	8.9300e-003	489.9592
NaturalGas Unmitigated	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	487.0648	487.0648	9.3400e-003	8.9300e-003	489.9592

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	6.90779e+006	0.0373	0.3386	0.2844	2.0300e-003		0.0257	0.0257		0.0257	0.0257	0.0000	368.6260	368.6260	7.0700e-003	6.7600e-003	370.8165
General Office Building	2.21946e+006	0.0120	0.1088	0.0914	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4388	118.4388	2.2700e-003	2.1700e-003	119.1427
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0492**	**0.4474**	**0.3758**	**2.6800e-003**		**0.0340**	**0.0340**		**0.0340**	**0.0340**	**0.0000**	**487.0648**	**487.0648**	**9.3400e-003**	**8.9300e-003**	**489.9592**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	6.90779e+006	0.0373	0.3386	0.2844	2.0300e-003		0.0257	0.0257		0.0257	0.0257	0.0000	368.6260	368.6260	7.0700e-003	6.7600e-003	370.8165
General Office Building	2.21946e+006	0.0120	0.1088	0.0914	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4388	118.4388	2.2700e-003	2.1700e-003	119.1427
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0492**	**0.4474**	**0.3758**	**2.6800e-003**		**0.0340**	**0.0340**		**0.0340**	**0.0340**	**0.0000**	**487.0648**	**487.0648**	**9.3400e-003**	**8.9300e-003**	**489.9592**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.26014e+006	389.5693	0.0297	6.1500e-003	392.1455
General Office Building	2.5418e+006	438.1176	0.0334	6.9200e-003	441.0150
Parking Lot	57024	9.8290	7.5000e-004	1.6000e-004	9.8940
Total		**837.5158**	**0.0639**	**0.0132**	**843.0544**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
General Light Industry	2.26014e+006	389.5693	0.0297	6.1500e-003	392.1455
General Office Building	2.5418e+006	438.1176	0.0334	6.9200e-003	441.0150
Parking Lot	57024	9.8290	7.5000e-004	1.6000e-004	9.8940
Total		**837.5158**	**0.0639**	**0.0132**	**843.0544**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Unmitigated	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Architectural Coating	0.2154					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	**1.8330**	**5.0000e-005**	**5.2900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0103**	**0.0103**	**3.0000e-005**	**0.0000**	**0.0110**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2154					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	**1.8330**	**5.0000e-005**	**5.2900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0103**	**0.0103**	**3.0000e-005**	**0.0000**	**0.0110**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	205.0485	5.3572	0.1286	377.3125

Unmitigated	205.0485	5.3572	0.1286	377.3125

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	164.049 / 0	205.0485	5.3572	0.1286	377.3125
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**205.0485**	**5.3572**	**0.1286**	**377.3125**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	164.049 / 0	205.0485	5.3572	0.1286	377.3125
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**205.0485**	**5.3572**	**0.1286**	**377.3125**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/□ear

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.0201	5.6155	0.0000	235.4082
Unmitigated	95.0201	5.6155	0.0000	235.4082

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	336.04	68.2131	4.0313	0.0000	168.9950
General Office Building	132.06	26.8070	1.5843	0.0000	66.4132
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**95.0201**	**5.6155**	**0.0000**	**235.4082**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	336.04	68.2131	4.0313	0.0000	168.9950
General Office Building	132.06	26.8070	1.5843	0.0000	66.4132
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**95.0201**	**5.6155**	**0.0000**	**235.4082**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

McLaren Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	142.00	1000sqft	0.00	142,000.00	0
General Light Industry	271.00	1000sqft	8.97	271,000.00	50
Parking Lot	162.00	Space	0.00	64,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	User Defined				
CO_2 Intensity (lb/MWhr)	501.7	**CH_4 Intensity (lb/MWhr)**	0.024	**N_2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Utility intensity factors from the USEPA WECC California (CAMx) subregion, adjusted to represent 33% RPS by 2020 consistent with SB X1-2 and EO S-14-08.

Land Use - Assumes 50 employees, all acreage into general light industry category

Construction Phase - This is an operational run only, so no construction.

Off-road Equipment -

Trips and VMT -

Vehicle Trips - Based on 410 daily trips on all days for 413,000 sqft (from traffic study)

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - Use 2016 Title 24 energy intensities. Data center power emissions estimated outside of CalEEMod.

Water And Wastewater - Non-default indoor water use based on 2.2 gal/day/sqft, or 327,938,264 gal/yr from project sponsor.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	T24E	1.55	1.47
tblEnergyUse	T24E	6.40	6.08
tblEnergyUse	T24NG	19.81	18.82
tblEnergyUse	T24NG	16.39	15.57
tblFleetMix	FleetMixLandUseSubType	General Office Building	General Light Industry
tblFleetMix	FleetMixLandUseSubType	General Light Industry	General Office Building
tblLandUse	LotAcreage	3.26	0.00
tblLandUse	LotAcreage	6.22	8.97
tblLandUse	LotAcreage	1.46	0.00
tblLandUse	Population	0.00	50.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.024
tblProjectCharacteristics	CO2IntensityFactor	0	501.7
tblProjectCharacteristics	N2OIntensityFactor	0	0.004
tblProjectCharacteristics	OperationalYear	2018	2022
tblVehicleTrips	ST_TR	1.32	1.51
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	0.68	1.51
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	6.97	1.51
tblVehicleTrips	WD_TR	11.03	0.00
tblWater	IndoorWaterUseRate	62,668,750.00	164,049,132.00
tblWater	IndoorWaterUseRate	25,238,192.22	0.00
tblWater	OutdoorWaterUseRate	15,468,569.42	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	1,592.8061	1,592.8061	0.0622	0.0178	1,599.6500
Mobile	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034
Waste						0.0000	0.0000		0.0000	0.0000	95.0201	0.0000	95.0201	5.6155	0.0000	235.4082
Water						0.0000	0.0000		0.0000	0.0000	52.0452	202.0046	254.0499	5.3552	0.1278	426.0235
Total	**1.9856**	**0.9068**	**1.6979**	**7.4300e-003**	**0.4443**	**0.0380**	**0.4823**	**0.1189**	**0.0377**	**0.1567**	**147.0653**	**2,229.4729**	**2,376.5382**	**11.0471**	**0.1456**	**2,696.0960**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	1,592.8061	1,592.8061	0.0622	0.0178	1,599.6500
Mobile	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034

Waste						0.0000	0.0000		0.0000	0.0000	95.0201	0.0000	95.0201	5.6155	0.0000	235.4082
Water						0.0000	0.0000		0.0000	0.0000	52.0452	202.0046	254.0499	5.3552	0.1278	426.0235
Total	**1.9856**	**0.9068**	**1.6979**	**7.4300e-003**	**0.4443**	**0.0380**	**0.4823**	**0.1189**	**0.0377**	**0.1567**	**147.0653**	**2□229.4729**	**2□376.5382**	**11.0471**	**0.1456**	**2□696.0960**

	ROG	NO□	CO	SO2	Fugitive PM10	E□haust PM10	PM10 Total	Fugitive PM2.5	E□haust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2017	4/30/2017	5	0	

Acres of Grading □Site Preparation Phase□□0

Acres of Grading □Grading Phase□□0

Acres of Paving□0

Residential Indoor□0□Residential Outdoor□0□Non-Residential Indoor□0□Non-Residential Outdoor□0□Striped Parking Area□0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034
Unmitigated	0.1034	0.4594	1.3168	4.7500e-003	0.4443	3.9800e-003	0.4482	0.1189	3.7200e-003	0.1226	0.0000	434.6519	434.6519	0.0141	0.0000	435.0034

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	409.21	409.21	409.21	1,194,693	1,194,693
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	409.21	409.21	409.21	1,194,693	1,194,693

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mi□

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
General Office Building	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,105.7413	1,105.7413	0.0529	8.8200e-003	1,109.6908
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,105.7413	1,105.7413	0.0529	8.8200e-003	1,109.6908
NaturalGas Mitigated	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	487.0648	487.0648	9.3400e-003	8.9300e-003	489.9592
NaturalGas Unmitigated	0.0492	0.4474	0.3758	2.6800e-003		0.0340	0.0340		0.0340	0.0340	0.0000	487.0648	487.0648	9.3400e-003	8.9300e-003	489.9592

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	6.90779e+006	0.0373	0.3386	0.2844	2.0300e-003		0.0257	0.0257		0.0257	0.0257	0.0000	368.6260	368.6260	7.0700e-003	6.7600e-003	370.8165
General Office Building	2.21946e+006	0.0120	0.1088	0.0914	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4388	118.4388	2.2700e-003	2.1700e-003	119.1427
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0492**	**0.4474**	**0.3758**	**2.6800e-003**		**0.0340**	**0.0340**		**0.0340**	**0.0340**	**0.0000**	**487.0648**	**487.0648**	**9.3400e-003**	**8.9300e-003**	**489.9592**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	6.90779e+006	0.0373	0.3386	0.2844	2.0300e-003		0.0257	0.0257		0.0257	0.0257	0.0000	368.6260	368.6260	7.0700e-003	6.7600e-003	370.8165
General Office Building	2.21946e+006	0.0120	0.1088	0.0914	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4388	118.4388	2.2700e-003	2.1700e-003	119.1427
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0492**	**0.4474**	**0.3758**	**2.6800e-003**		**0.0340**	**0.0340**		**0.0340**	**0.0340**	**0.0000**	**487.0648**	**487.0648**	**9.3400e-003**	**8.9300e-003**	**489.9592**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.26014e+006	514.3339	0.0246	4.1000e-003	516.1711
General Office Building	2.5418e+006	578.4305	0.0277	4.6100e-003	580.4966
Parking Lot	57024	12.9768	6.2000e-004	1.0000e-004	13.0232
Total		**1105.7413**	**0.0529**	**8.8100e-003**	**1109.6908**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.26014e+006	514.3339	0.0246	4.1000e-003	516.1711
General Office Building	2.5418e+006	578.4305	0.0277	4.6100e-003	580.4966
Parking Lot	57024	12.9768	6.2000e-004	1.0000e-004	13.0232
Total		**1 105.7413**	**0.0529**	**8.8100e-003**	**1 109.6908**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Unmitigated	1.8330	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2154					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	**1.8330**	**5.0000e-005**	**5.2900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0103**	**0.0103**	**3.0000e-005**	**0.0000**	**0.0110**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2154					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	**1.8330**	**5.0000e-005**	**5.2900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0103**	**0.0103**	**3.0000e-005**	**0.0000**	**0.0110**

7.0 Water Detail

7.1 Mitigation Measures Water

Category	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	254.0499	5.3552	0.1278	426.0235
Unmitigated	254.0499	5.3552	0.1278	426.0235

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
General Light Industry	164.049 / 0	254.0499	5.3552	0.1278	426.0235
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**254.0499**	**5.3552**	**0.1278**	**426.0235**

Mitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
General Light Industry	164.049 / 0	254.0499	5.3552	0.1278	426.0235

General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**254.0499**	**5.3552**	**0.1278**	**426.0235**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.0201	5.6155	0.0000	235.4082
Unmitigated	95.0201	5.6155	0.0000	235.4082

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	336.04	68.2131	4.0313	0.0000	168.9950
General Office Building	132.06	26.8070	1.5843	0.0000	66.4132

Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**95.0201**	**5.6155**	**0.0000**	**235.4082**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	336.04	68.2131	4.0313	0.0000	168.9950
General Office Building	132.06	26.8070	1.5843	0.0000	66.4132
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**95.0201**	**5.6155**	**0.0000**	**235.4082**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B
BAAQMD Stationary Source Inquiry Form

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD. This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

For guidance on conducting a risk & hazard screening, including for roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Also see the District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requestor Contact Information	
Contact Name:	Julia Luongo
Affiliation:	Ramboll Environ
Phone:	415-426-5025
Email:	jluongo@ramboll.com
Date of Request	8/18/2016
Project Name:	-
Address:	North of Mathew St between Lafayette St and the railroad
City:	Santa Clara
County:	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.):	Industrial
Project size (# of units, or building square feet):	
Comments:	

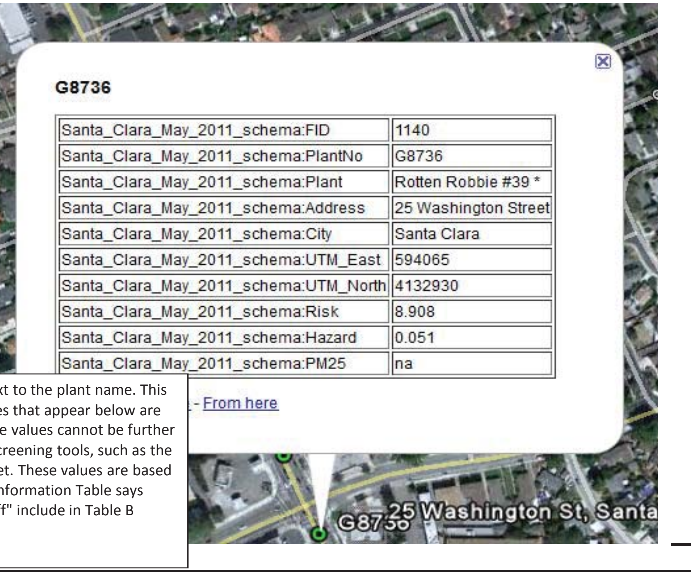
For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include a project site map.
2. Download and install the free program Google Earth, http://www.google.com/earth/download/ge/, and then download the county specific Google Earth stationary source application files from the District's website, http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx. The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.
3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.
4. Identify stationary sources near the project. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.
5. List the stationary source information in Table B Section 1 below.
6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.
7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Alison Kirk at 415-749-5169, or akirk@baaqmd.gov .

Map B: Snapshot of Google Earth with Plant G8736 Information Table Selected Showing HRSA Values



Note the asterisk next to the plant name. This means that the values that appear below are from the HRSA. These values cannot be further adjusted using our screening tools, such as the diesel multiplier sheet. These values are based on modeling. If the Information Table says "Contact District Staff" include in Table B below.

Table B: Stationary Sources

Table B Section 1: Requestor fills out these columns based on Google Earth data

Table B Section 2: BAAQMD returns form with additional information in these columns as needed

Distance from Receptor (feet)	Plant # or Gas Dispensary #	Facility Name	Street Address	Screening Level Cancer Risk (1)	Screening Level Hazard Index (1)	Screening Level PM2.5 (1)	Permit #s (2)	Source #s (2)	Fuel Code (3)	Type of Source(s) (4)	HRSA Ap # (5)	HRSA Date (6)	HRSA Engineer (7)	HRSA Cancer Risk in a million	Age Sensitivity Factor (8)	HRSA Adjusted Cancer Risk	HRSA Chronic Health (9)	HRSA PM2.5 Risk	Status/Comments
220	9200	US Foam Inc	630 Martin Ave	0.05	0	22.6												0	emissions attached; consider site-specific modeling.
220	11324	Los Altos Garbage Company	650 Martin Ave	0	0	0												0	no risk/concentration, no further study needed.
520	G8575	Vargas Gardening Service	495 Robert Ave	1.9*	0.009*	na*												0	*Note that I added screening values for 2014 (not on web yet). Consider using provided screening values.
550	11223	88 Auto Body	518 Roberts Ave	0	0	0												0	no risk/concentration, no further study needed.
600	621	City of Snata Clara, Silicon Valley Power	560 Robert Ave	421	4.27	55												0	emissions attached; consider site-specific modeling.

0	16972	Magnessen's Car West Autobody	631 Martin Ave	0	0	0												0	no risk/concentration, no further study needed.
850	11013	Castro Body Shop	970 Martin Avenue	0	0	0												0	no risk/concentration, no further study needed.
600	5269	M's Refinishing	965 Richard Ave	1.63	0.06	0												0	low risk/concentration, no further study needed.
450	17885	K Auto Body & Repair	2555 Lafayette Street, #117	0.05	0	0												0	no risk/concentration, no further study needed.
0	11179	A Tool Shed, Inc	2556 lafayette Street	0	0	0												0	no risk/concentration, no further study needed.
100	17352	Align Technology	881 Martin Ave	24.62	0.009	0.044					13527	11/1/2005	DYC	1.600	1.7	2.72	0.001	0.008526646	consider using adjusted HRSA values.
400	19663	ACE Fuel Systems Inc	975 Richard Ave	0	0	0												0	no risk/concentration, no further study needed.
400	16472	R G Fine Finishes Inc	965 Richard Ave, Unit A	0	0	0												0	no risk/concentration, no further study needed.
950	5600	Frontier Auto Body	1050 Martin Ave	0	0.012	0.003												0	no risk/concentration, no further study needed.
650	16964	Bay Area Surgical Group	2222 Lafayette St, STE 101	2.72	0.001	0.001												0	low risk/concentration, no further study needed.
900	19686	Microsoft Corporation	2045 Lafayette Street	9478.87	3.353	16.8				diesel engines	24737	10/25/2012	JHL	10.600	1	10.6	0.008	0.03322884	Consider using HRSA values, which cover all 26 engines. See attached for emissions info.
950	4400	FMG Enterprises Inc	1125 Memorex Drive	0.03	0	0												0	no risk/concentration, no further study needed.
500	16950	Hand Crafted Cabinets	1001 Martin Ave	0	0	0												0	no risk/concentration, no further study needed.
600	16754	AT&T Mobility	1051 Martin Avenue	0	0	0												0	no risk/concentration, no further study needed.
850	10299	Memorex Dirve LLC	1200 Memorex Dirve	2.43	0.006	0												0	low risk/concentration, no further study needed.

750	8313	Mission Trail Waste Systems	1060 Richard Avenue	0.43	0.003	29.5												0	emissions attached. Consider site-specific study.
650	17041	Process Stainless Lab, Inc	1280 Memorex Drive	0	0	0												0	no risk/concentration, no further study needed.
500	12987	Economy Auto Body	2555 Lafayette St., Suite 110	0	0	0												0	no risk/concentration, no further study needed.
850	11467	Vivid Inc	1250 Memorex Drive	0	0	0.037												0	low risk/concentration, no further study needed.
850	4712	Byington Steel Treating, Inc	1225 Memorex Drive	0	0	0												0	no risk/concentration, no further study needed.

Footnotes:

1. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.

2. Each plant may have multiple permits and sources.
3. Fuel codes: 98 = diesel, 189 = Natural Gas.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
6. The date that the HRSA was completed.
7. Engineer who completed the HRSA. For District purposes only.
8. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
9. The HRSA "Chronic Health" number represents the Hazard Index.
10. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less. To be conservative, requestor should assume the cancer risk is 1 in a million and the hazard index is 0.003 for these sources.
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect the number of years perc use will continue after the project's residents or other sensitive receptors (such as students, patients, etc) take occupancy.
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

Date last updated:
5/30/12

Resource Name or (Assigned by recorder) 651 Mathew Street

Map Reference Number
P1. Other Identifier
P2. Location ☐ **Not for Publication** ☑ **Unrestricted** **a. County** Santa Clara County
And (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5 Quad San Jose West **Date** 1980 **T**; **R**; **of Sec** Unsectioned; **B.M.**
c. Address 651 Mathew Street City Santa Clara Zip 94050
d. UTM: (give more than one for large and/or linear resources) Zone 10; 593294 mE/ 4135772 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Parcel #224-40-001. Tract: Laurelwood Farms Subdivision.
P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

651 Mathew Street in Santa Clara is an approximately 4.35-acre light industrial property in a light and heavy industrial setting east of the San Jose International Airport and the Southern Pacific Railroad train tracks. The property contains nine (9) cannery and warehouse buildings formerly operated by a maraschino cherry packing company, the Diana Fruit Preserving Company. The first building was constructed on the property in 1950 and consists of a rectangular shaped, wood-frame and reinforced concrete tilt-up cannery building with a barrel roof and bow-string truss (see photograph 2, 3, 4, 10). A cantilevered roof wraps around the southwest corner and shelters the office extension. The walls are sheathed in stucco and concrete. The fenestration consists of a large freight opening with a metal roll-up door at the main (south) and side (west) façades, a row of 9-pane fixed steel-sash windows at the clerestory on both side elevations (east, west), and metal-frame, single-entry doors along the east and west facades. The south façade office portion has been completely remodeled with doors and windows filled in and new openings created including a single-entry door flanked asymmetrically by vinyl-frame, sliding-sash windows. Metal piping runs across the south and west façade below the roof line. (See Continuation Sheet)

P3b. Resource Attributes (List attributes and codes) HP8 (Industrial Building)
P4. Resources Present ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other

P5a. Photograph or Drawing (Photograph required for buildings, structures and objects)

P5b. Description of Photo: (View, date, accession #) View looking northeast from Mathew Street, 10/25/2016.

P6. Date Constructed/Age and Sources
☑ Historic ☐ Prehistoric ☐ Both
1949/ Assessor Records

P7. Owner and Address
Diana Land Company, LTD
651 Mathew Street,
Santa Clara, CA 94050

P8. Recorded by (Name, affiliation, address)
Aisha Fike
Architectural Historian
ICF International
620 Folsom Street, 2nd floor
San Francisco, CA 94107

P9. Date Recorded October 25, 2016
P10. Survey Type (Describe) Intensive

P11. Report Citation ICF International, *Draft Initial Study/Mitigated Negative Declaration: 6[illegible]1, [illegible]2[illegible], [illegible]2[illegible] Mathew Street McLaren Project.* Prepared for the City of Santa Clara, California, 2016.
Attachments ☐NONE ☐ Location Map ☑ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record

BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # ______
HRI # ______
*NRHP Status Code 6Z

*Resource Name or #(Assigned by recorder) 651 Mathew Street

B1. Historic Name: Diana Fruit Preserving Company, Diana Fruit Company
B2. Common Name:
B3. Original Use: Cannery B4. Present Use: Cannery
***B5. Architectural Style:** Utilitarian/Industrial
***B6. Construction History:** (Construction date, alteration, and date of alterations) See Continuation Sheet

***B7. Moved?** ☑ No ☐ Yes ☐ Unknown **Date:** **Original Location:**
***B8. Related Features:**
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance:** N/A **Theme** N/A **Area**
Period of Significance: N/A **Property Type:** **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historic Context

Santa Clara County was incorporated in 1850 as part of the first twenty-seven counties created by the California legislature. In 1853 the northern portion of Santa Clara County (Washington Township) split from the county to form the southern portion of the newly formed Alameda County. The construction of a railroad station in 1863 brought an increase in industry and population to Santa Clara and enabled many of the industries to flourish. Fruit and vegetable orchards dominated the Santa Clara Valley and drove the local economy from the 1890s well into the 1940s. As a result of the dominant orchard economy, local canning operations quickly multiplied and dotted the subject area located in the northeastern portion of the County. Other early industries such as manufacturing, leather tanning, and wood products were also sustained well into the twentieth century. (Archives & Architecture, LLC 2012: 36-41; City of Santa Clara 2010: 3-2; City of Santa Clara 2016).

(Sketch Map with north arrow required.)

See Sketch Map DPR 523K

The fruit packing industry flourished in Santa Clara during the first third of the twentieth century. The Block Fruit Packing Company, one of the first established in the area in 1878 by German settler, Abram Block, became well known in California within ten years of operation for its pears and cherries. The Pratt-Low Preserving Company was established in 1905 and would become the largest operation in Santa Clara. By 1922, the company shipped ten million cans of apricots, pears, peaches, cherries, and plums annually throughout the United States, England and Asia from its sprawling ten acre Santa Clara packing and processing plant. Pratt-Low employed 400 to 1000 people to handle, sort and can during the harvest season. Rosenberg Bros. opened a branch in Santa Clara in 1915, its eighth in California and claimed to be the largest fruit packer in the State (City of Santa Clara 2016; Garcia 2002: 60-61, 90, 99).

Santa Clara Valley provided nearly half of the world's fresh, dried and processed fruit and remained the leading center for the industry by the end of World War II. Following the war however, light industrial and high-tech research and development facilities, coupled with expanding suburban housing development, gradually replaced the valley's vast orchards, and ended the regions dominance in fruit packing and other industries of agriculture. Pratt-Low leased its plant to Duffy-Mott Company in 1960, who eventually closed the operation in the mid-1970s. The population of Santa Clara grew from 6,500 in 1940 to 86,000 by 1970 due to the increased pressure for housing. The region's landscape was transformed from rolling hills, valleys, and orchards into a modern center of industrial parks and suburban tracts dominated by single-family homes (Archives & Architecture 2012:45; Garcia 2002: 117; City of Santa Clara 2010: 3-3). (See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)

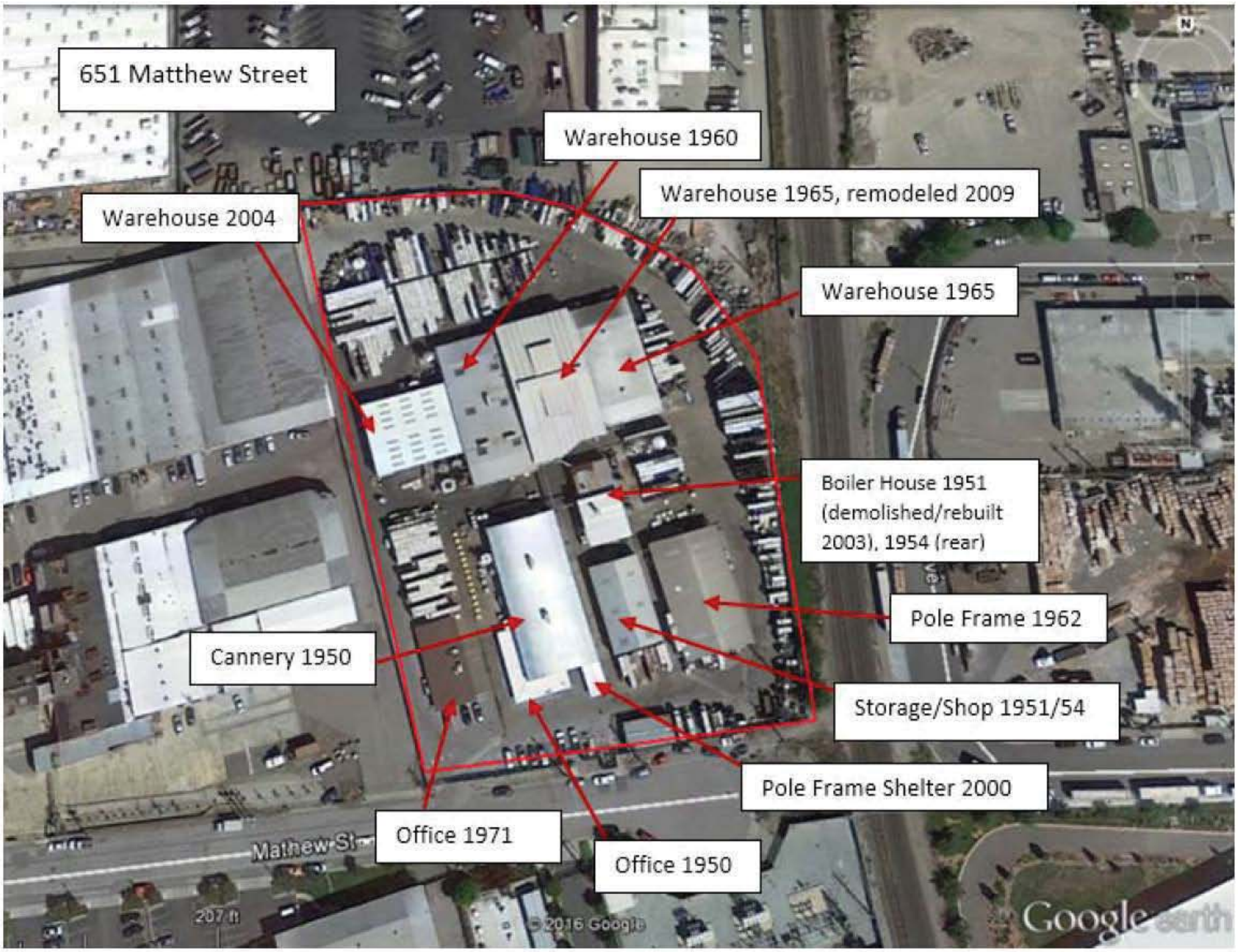
***B12. References:** (See Continuation Sheet)
B13. Remarks: n/a
***B14. Evaluator:** Aisha Fike, ICF International
***Date of Evaluation:** October 29, 2016

(This space reserved for official comments.)

*Resource Name or #(Assigned by recorder) 651 Mathew Street

*Drawn by *Map by: Google Earth Pro, 2017, created by Aisha Rahimi-Fike

*Date of Map: October 2016



***P3a. Description (continued):**

A wood-frame Storage/Shop Building (1951/54) is to the east of the Cannery Building with a gable roof and corrugated metal siding (see photographs 3, 4, 6). A large freight opening with a metal-roll-up door is at the north façade of the building. No other fenestration is visible on the building. A heavy wood and steel-frame Boiler House is to the rear of the Storage/Shop Building clad entirely in corrugated metal and with a flat roof (see photograph 7). A pole-frame building (2003) sheltering tanks fronts the Boiler House (see photograph 6). To the east of the Storage/Shop Building is a larger metal Pole Frame structure sheltering tanks (see photographs 3, 5, 6). A detached wood-frame, one-story Office Building (1971) is at the southwest corner of the property (see photograph 11). It is in a rectangular-shaped plan with a front-facing-gable roof and slight eave overhangs. A single-entry flush door is at the main (south) façade flanked by an aluminum-frame, sliding-sash window. A row of five fixed square windows punctuate the side façade (east and west) and the walls are sheathed in vertical composite wood siding. Two similar Warehouse Buildings (1960, see photographs 9, 12; 1965, see photographs 7, 8) are at the rear of the property with a remodeled Warehouse (2009) in the center. The two Warehouse Buildings are rectangular-shaped in plan, wood-frame and concrete tilt-up with a barrel shaped, bow-truss roof. The west Warehouse Building (1960) is sheathed in stucco and the east Warehouse Building (1965) is exposed concrete. A large freight opening at the rear (north) facades contain metal roll-up doors. At the center of the Warehouse Buildings is a two-story, glass curtain wall Warehouse Building with a flat roof, a shed-roof pent house, and large fright opening at the north façade (see photographs 8, 9). A smaller one-story, glass curtain wall Warehouse/Shop Building is attached to the west elevation of the 1960 Warehouse Building.

***B6. Construction History (continued):**

The Diana Fruit Preserving Company moved to the 651 Mathew Street property from its original 215 Monroe Street site in Santa Clara in the 1949, closing the old site permanently in 1953. They constructed a row of tanks on the west side of the property in 1949 (removed to different sites on the property between 1960 and 1980) and the Cannery Building with Office at the southwest corner of the property in 1950. The Storage/Shop Building was constructed in 1951 and enclosed in 1954. A Boiler House was constructed to the rear of the Storage/Shop building in 1951 (demolished pole shelter constructed in 2003) with a rear addition in 1954. A warehouse was constructed at the rear of the Cannery Building in 1960 and two Warehouses attached to its east elevation in 1965. The center Warehouse was reconstructed as a sheer glass building in 2009. A Pole Frame Shelter was added to the east of the Storage/Shop building in 1960 and many of the tanks from the west end of the property moved beneath it. An Office Building was added to the west corner of the property in 1971. A glass Warehouse/Shop Building was added to the west of the 1960 Warehouse Building to the northwest in 2004 (Assessor files, historicaerials.com, Permits).

Date	Building/Structure	Major Alterations/ Additions	
1949	Tanks	1960-1980	Moved on site
1950	Cannery Building and Office	c. 1980	South façade of office portion remodeled
1951	Storage/Shop	1954	Enclosed
1951	Boiler House	1954	Rear Addition
		2003	1951 Boiler House demolished and pole-frame shelter built
1960	Warehouse	1965	Two Warehouses additions
1965		2009	Central Warehouse entirely remodeled
1971	Detached Office Building		
2004	Warehouse/Shop		

***B10. Significance (continued):**

Historic Context (continued)

Diana Fruit Preserving Company

The Diana Fruit Preserving Company was founded in 1921 in Santa Clara, by Alexander Diana, during the height of the industry. The company was originally located on 215 Monroe Street and closed permanently by 1953. Diana Fruit opened a new facility on the subject property at 651 Mathew Street in 1949 completing construction of the barrel tanks and the Cannery Building by 1950. Research into available historical data did not uncover the architect(s) and builder(s) of the buildings on the property. Alexander Diana was of Slovak heritage and born in Austria on May 13, 1870. He married Maria Diana in 1898 and immigrated to the United States in 1902. They had a daughter, Patricia (Petrina) Diana in 1908. Alexander was working as a manager of a winery in 1910 and residing in Santa Clara. By 1920 he is listed as a wage worker at a fruit store in the US Census. He began his own preserving and canning company, the Diana Fruit Preserving Company, in 1921 specializing in maraschino cherries. In the mid-1930s, Alexander developed a coloring process which allowed maraschino cherries to retain their vibrant hue during the canning process, contributing to the success and present appearance of the maraschino cherries (see photograph 13 for a historic c. 1930 photograph of the original Diana fruit cannery building) (Mercury News 2016; Ancestry.com 1944 City Directory; DianaFruit.com 2016, Ancestry 1910, 1920).

In April 1929, Petrina Diana was married to the son of a family friend, Eugene Acronico. Eugene soon became the superintendent of the business, and after Alexander Diana's death in 1941, took over the business as president. Acronico's son, Eugene Acronico Jr. served as the president of the company after his father's retirement in the 1960s. Acronico Jr. purchased the second site of the company at 651 Mathew Street in the late 1940s to accommodate the growing business. Acronico Jr. passed the role of president to Tom Klevay in 2013. In February 2016, Seneca Food Corporation of New York completed the acquisition of Diana Fruit under the subsidiary company, Gray & Company. Diana Fruit Company today boasts as the 3rd largest supplier of maraschino cherries in the United States. Today, the Diana Fruit Company appears to be the last surviving fruit packing company in operation in Santa Clara (DianaFruit.com 2016, Ancestry 1930: Maria Diana, Eugene Acronico, 1941; SF Chronicle 1943; Garcia 2002:114; Corr 2016).

Evaluation under the National Register of Historic Places (NRHP) Criteria A-D and the California Register of Historical Resources (CRHR) Criteria 1-4

The former Diana Fruit Preserving Company (currently Diana Fruit Company) property at 651 Mathew Street in Santa Clara is not eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR).

CRITERION A and 1 (Events):

Diana Fruit Preserving Company was established in 1921 during the height of the canning and packing industry but decades after the industry's initial development in the area in the Santa Clara Valley. Diana Fruit contributed to the success of the Santa Clara fruit packing trade and the cherry preserving industry through the development of the coloring process under founder Alexander Diana. Thus the company achieved some local significance for its contributions to the fruit packing trade and the cherry preserving industry in particular; however, the company achieved its fame during the 1930s under the direction and leadership of its founder and 651 Mathew Street was constructed as the second site of Diana Fruit in 1949.The property therefore is not representative of Diana Fruit's significance as it is not the location of the events that gave the company its significance. Furthermore, the current property did not achieve significance on its own merit for contributions to the advancement in the fruit canning and processing industry. Although the property appears to be the last remaining example of the fruit packing industry in the City of Santa Clara, it is not however not a rare surviving or early example in Santa Clara County. An earlier and much more intact example that conveys the industry's historic character is located nearby at 198 Martha Street in San Jose, constructed in 1919 for the American Can Company. As a result, 651 Mathew Street is not eligible for listing on the NRHP under Criterion A or the CRHR under Criterion 1.

CRITERION B and 2 (Person):

The subject property was owned by the Diana Fruit Preserving Company, and the site purchased for the growing business in the late 1940s by Eugene Acronico, son-in-law of founder, Alexander Diana. Acronico continued to grow the business which eventually went to his son Eugene Acronico Jr. Outside of continuing an already prosperous business, the Acronicos do not appear to have made any significant contributions to the development of the fruit canning and processing industry, nor any other contributions to local, state or national history. Although Alexander Diana appears to be a person of historical significance for his important contributions to the development of the cherry packing industry, the subject property itself is not the place where his important work was accomplished. The subject property therefore, is not eligible for listing on the NRHP under Criterion B or the CRHR under Criterion 2.

CRITERION C and 3 (Design/Construction):

Architecturally, the industrial style buildings on the property represent common characteristics of their type. The property includes two rows of attached and detached industrial and utilitarian cannery and warehouse buildings of varying ages that lack design cohesion. They are mainly of wood frames and exhibit elements typical of most industrial complexes constructed during the 1950s and 1960s. Due to the property's lack of architectural distinction and lack of association with known significant architect/builder, the property is not eligible for listing in the NRHP Criterion C or CRHR Criterion 3.

CRITERION D and 4 (Information Potential):

The subject property does not appear to be significant under NRHP Criterion D or CRHR Criterion 4 as a source, or likely source, of important historical information related to the built environment, and it does not appear likely to yield important information about historic construction methods, materials, or technologies. No archeological evaluation was conducted for the purposes of this study and the property's potential for subsurface prehistoric and historic resources as well as impacts related to archeology is outlined under the ISMND listed in *P11 Report Citation of the above DPR 523 A form.

The Criteria for Local Significance (City of Santa Clara 2014)

The Criteria for Local Significance was adopted on April 20, 2004, by the City of Santa Clara City Council. Any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical or archaeological significance is potentially eligible.

Criterion for Historic or Cultural Significance: To be historically or culturally significant, a property must meet at least one of the following criterion:

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

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

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

Criterion for Geographical Significance: To be geographically significant, a property must meet at least one of the following criterion:

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

Criterion for Archaeological Significance: For the purposes of CEQA, an "important archaeological resource" is one which:

1. Is associated with an event or person of
   A. Recognized significance in California or American history, or
   B. Recognized scientific importance in prehistory.
2. Can provide information, which is both of demonstrable public interest, and useful in addressing scientifically consequential and reasonable or archaeological research questions;
3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4. Is at least 100 years old and possesses substantial stratigraphic integrity; or
5. Involves important research questions that historical research has shown can be answered only with archaeological methods.

Evaluation under the Criteria for Local Significance

Historic or Cultural Significance: The Diana Fruit Company appears to have some local significance as a company "associated with a significant industrial, institutional, commercial, agricultural, or transportation activity." However, Diana Fruit's historical significance is closely tied to its creator Alexander Diana's contributions to the cherry packing industry during the 1930s, which occurred at the company's original location at 215 Monroe Street. The subject property has no physical connection to the significance of the Diana Fruit Company under Alexander Diana and therefore, the property is not eligible for local listing under the Criterion for Cultural or Historical Significance.

Architectural Significance: The property is a common example of an industrial complex, is not associated with a known master architect or builder, and is not architecturally unique or innovative, does not represent a visual symbolic meaning for the community, nor possess notable attributes of an aesthetic or functional nature. Therefore, the property is not eligible for local listing under the Criterion for Architectural Significance.

Geographical Significance: The setting of the subject property has changed significantly since the property's construction and does not contribute to a neighborhood or unique area directly associated with the development of the fruit packing industry in Santa Clara. Although many of the adjacent properties are of similar light industrial uses, they do not present a visual continuity of character similar in design and compatibility to the subject property. There does not appear to be the potential for a historic district that would include the subject property as a contributor. Therefore, the property is not eligible for local listing under the Criterion for Geographical Significance.

Archaeological Significance: The property is not subject to this criteria because it is not an "archaeological resource."

Integrity: The property at 651 Matthew Street has undergone several changes over time. Many of the cannery buildings and warehouses have been extensively remodeled and expanded in a number of incompatible additions over the years including the removal of many of the tanks from the property between 1960 and 1980, the remodel of the south wall of the 1950 cannery building ca. 1980, and complete remodel of the central 1965 warehouse in 2009. In addition, a number of the cannery buildings have been demolished including the boiler room and one of the 1965 warehouse buildings. The property was originally located on 215 Monroe Street in Santa Clara where it achieved its historical significance and moved to the subject property in 1949. According to historic aerials and the historical data, the surrounding area was predominantly made up of scattered industrial properties with large swaths of agricultural parcels during the first decade after the construction of the property. Overall, the property has low integrity in its aspects of location, setting, design, materials, and workmanship. The property retains its association and feeling as a fruit packing industry in Santa Clara as it continues in its historic use and contains some of the original cannery and packing warehouse buildings constructed on the subject property. The definition of integrity in the Santa Clara Historic Preservation and Resource Inventory follows the seven aspects of integrity of the NRHP and states furthermore that “to retain historic integrity, a property will always possess several, and usually most, of these aspects.” The property therefore does not retain historic integrity.

Conclusion

Based on an evaluation under NRHP Criteria A–D, CRHR 1–4, and Santa Clara Historic Preservation and Resource Inventory criteria, the property at 651 Mathew Street does not convey historical significance nor retain historical integrity such that it would qualify for listing on the NRHP, CRHR, or local register as a historical resource.

The property is not a historical resource for the purposes of the California Environmental Quality Act (CEQA) and has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

□B12. References □continued□□

Ancestry.com
1910 US Census: Alexander Diana.
1920 US Census: Alexander Diana.
1930 US Census: Maria Diana; Eugene Acronico.
1941 California Death Index 1940-1997: Alexander Diana.
1944 Polk City Directory: 215 Monroe Street, page 285.

Archives & Architecture, LLC
2012 *Cou□ty o□Sa□ta Clara Historic Co□te□t State□e□t.* Prepared for the County of Santa Clara Department of Planning and Development, San José, CA.

City of Santa Clara Planning Department,
1954-2014 Permits: 224 40 001. Available at the City of Santa Clara Permit Counter, Santa Clara, California.

City of Santa Clara
2010 *City o□Sa□ta Clara 2010□20□□ Ge□eral Pla□: Cha□ter □ Treasuri□g Our Past, Prese□t a□d □uture.* Prepared for the City of Santa Clara, Santa Clara, California.

2014 General Plan – Appendix 8.9: Historic Preservation and Resource Inventory. Updated December 9. Available at http://santaclaraca.gov/home/showdocument?id=12893. Accessed: September 29, 2016.

2016 *The Missio□ City: A □rie□History o□Sa□ta Clara.* Available at http://santaclara.gov/about/city-history/the-mission-city. Accessed October 28, 2016.

Corr, Casey
2016 “Seneca Foods Buys Diana Fruit Co.” *Good □ruit Gro□er.* Available on www.goodfruitgrower.com. Accessed October 30, 2016.

DianaFruit.com
2016 “Heritage.” Available on www.dianafruit.com. Accessed October 30, 2016.

Garcia, Lorie, Giacomini, George, and Geoffrey Goodfellow
2002 *A Place o□Pro□ise: The City o□Sa□ta Clara 1□□2□2002.* City of Santa Clara: Santa Clara, California.

Historicaerials.com
2016 Aerials-1948, 1956, 1960, 1968, 1980, 1987, 1993, 1999, 2002, 2004, 2005, 2009, 2010, 2012, Nationwide Environmental Research, LLC. Accessed October 2016.

The Mercury □e□s

2016 “One of Silicon valley’s last canneries closes its doors.” Obituary, by Scott Herhold. August 29. Available on http://www.mercurynews.com/2016/11/23/one-of-silicon-valleys-last-canneries-closes-its-doors/. Accessed January 30, 2017.

San Francisco Chronicle
1943 “Podesta.” Obituary. August 29, 1943: 71.

Santa Clara County Assessor Records
224-40-001. Available at the Santa Clara County Assessor Office, San Jose, California.

Photographs:

Photograph 2.
1950 Cannery Building. View northeast. Fike, 10/25/2016.

Photograph 3.
Cannery Building (Storage/Shop) and Pole Frame Structure. View northeast. Fike, 10/25/2016.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # ______________________
HRI # ______________________
Trinomial ______________________

*Resource Name or # (Assigned by recorder) 651 Mathew Street
*Recorded by Aisha Fike, ICF International *Date October 25, 2016 ☑ Continuation ☐ Update

Photograph 4.
Cannery Building and Storage/Shop. View northwest.
Fike 10/25/2016.

Photograph 5.
Rear of Pole Frame Structure and Storage/Shop showing Boiler Shelter (2003) in rear. View southwest. Fike 10/25/2016.

Photograph 6.
Rear of Pole Frame Structure and Storage/Shop showing Boiler Shelter (2003) in rear. View southwest.

Photograph 7.
South façade of Warehouse Buildings showing Boiler House (1954) to the left (indicated by red arrow). View northwest. Fike 10/25/2016.

***Resource Name or #** (Assigned by recorder) 651 Mathew Street

***Recorded by** Aisha Fike, ICF International *Date October 25, 2016 ☑ Continuation ☐ Update

Photograph 8.
Rear (north) façade of rear Warehouse buildings. View southwest. Fike, 10/25/2016.

Photograph 9.
Rear (north) façade of rear Warehouse buildings, remodeled warehouse (2009) on left and 1960 Warehouse on right. View south. Fike, 10/25/2016.

Photograph 10.
Rear and side façade (north/west) of Cannery Building View southeast. Fike, 10/25/2016.

Photograph 11.
Detached Office Building (1971). View north. Fike, 10/25/2016.

Photograph 12.
Rear façade (north) of glass warehouse building and 1960 warehouse building. View south. Fike, 10/25/2016.

Photograph 13.
Historic photograph of the original Diana Fruit Preserving Company cannery building. Original Monroe Street location. Circa 1930. Source: Dianafruit.com, 2016.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # ____
HRI # ____
Trinomial ____
NRHP Status Code 6Z

Other Listings ____
Review Code ___________ **Reviewer** ______________________________ **Date** ___________

Resource Name or # (Assigned by recorder) 725 Mathew Street

Map Reference Number
P1. Other Identifier
P2. Location ☐ **Not for Publication** ☑ **Unrestricted** **a. County** Santa Clara County
And (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad San Jose West **Date** 1980 **T**; **R**; **of Sec** Unsectioned; **B.M.**
c. Address 725 Mathew Street City Santa Clara Zip 94050
d. UTM: (give more than one for large and/or linear resources) Zone 10; 593185 mE/ 4135749 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Parcel #224-40-002. Other addresses: 705, 715, 735, 745, 747, 755, 765, 775, 785, 795, 825 Mathew Street. Tract: Laurelwood Farms Subdivision.
P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

725 Mathew Street in Santa Clara is an approximately 4.36-acre light industrial property in a light and heavy industrial setting east of the San Jose International Airport and the Southern Pacific Railroad train tracks. The property, currently used as storage, contains 11 attached buildings, many of which were former cannery and warehouse buildings operated by a tomato canning company, the Gangi Brothers Packing Company. The first building constructed on the property in 1946 consists of a rectangular-shaped former cannery building at the southwest end of the property fronting Mathew Street. It rises from a concrete slab foundation and is capped by a summer-bell-shaped roof with a bow truss. It is a wood-frame and galvanized sheet iron building with the wood framing exposed in the center and the rest sheathed in corrugated metal. The roof is punctuated in the center west eave by a square-shaped, second-story addition (1969), and the footing remains of the former tall chimney stack. Fenestration include oversized openings with sliding doors, single-entry flush wood door openings and set of three transom lights visible along the west wall. A set of metal stairs with metal railings leads to the 2nd story addition of the building on the west elevation. A rectangular-shaped corrugated metal shed placed perpendicular to the building at the south elevation obscures the main façade of the former cannery building. The remains of the two-story, wood-frame, galvanized iron former boiler house (1947) is to the west of the cannery building, connected by a wood-frame gable roof. (See Continuation Sheet)

P3b. Resource Attributes (List attributes and codes) HP8 (Industrial building)
P4. Resources Present ☑ Building ☑ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☑ Other

P5a. Photograph or Drawing (Photograph required for buildings, structures and objects)

P5b. Description of Photo: (View, date, accession #) View looking north from Mathew Street with the remains of the former boiler house and original cannery building on the left, 10/25/2016.

P6. Date Constructed/Age and Sources
☑ Historic ☐ Prehistoric ☐ Both
1946/ Assessor Records

P7. Owner and Address
Mathew Street Properties, LLC
725 Mathew Street,
Santa Clara, CA 94050

P8. Recorded by (Name, affiliation, address)
Aisha Fike
Architectural Historian
ICF International
620 Folsom Street, 2nd floor
San Francisco, CA 94107

P9. Date Recorded October 25, 2016
P10. Survey Type (Describe) Intensive

P11. Report Citation ICF International, *□raft Initial Study/Mitigated □egati□e □eclaratio□: 6□1, □2□, □2□ Mathe□ Street McLare□ Pro□ect*. Prepared for the City of Santa Clara, California, 2016.
Attachments ☐NONE ☐ Location Map ☑ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record

Primary # ______
HRI # ______
NRHP Status Code 6Z

Resource Name or (Assigned by recorder) 725 Mathew Street

B1. Historic Name: Gangi Brothers Packing Company
B2. Common Name:
B3. Original Use: Cannery B4. Present Use: Storage
B5. Architectural Style Utilitarian/Industrial
B6. Construction History (Construction date, alteration, and date of alterations) See Continuation Sheet

B7. Moved ☑ No ☐ Yes ☐ Unknown **Date** **Original Location**
B8. Related Features
B9a. Architect: Bothelia and Perez: Scale House, Office Building and Warehouse (1965) b. Builder: Unknown
B10. Significance N/A **Theme** N/A **Area**
Period of Significance N/A **Property Type** **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historic Context

Santa Clara County was incorporated in 1850 as part of the first twenty-seven counties created by the California legislature. In 1853 the northern portion of Santa Clara County (Washington Township) split from the county to form the southern portion of the newly formed Alameda County. The construction of a railroad station in 1863 brought an increase in industry and population to Santa Clara and enabled many of the industries to flourish. Fruit and vegetable orchards dominated the Santa Clara Valley and drove the local economy from the 1890s well into the 1940s. As a result of the dominant orchard economy, local canning operations quickly multiplied and dotted the subject area located in the northeastern portion of the County. Other early industries such as manufacturing, leather tanning, and wood products were also sustained well into the twentieth century (Archives & Architecture, LLC 2012: 36-41; City of Santa Clara 2010: 3-2; City of Santa Clara 2016).

(Sketch Map with north arrow required.)

See Sketch Map DPR 523K

The fruit packing industry flourished in Santa Clara during the first third of the twentieth century. The Block Fruit Packing Company, one of the first established in the area in 1878 by German settler, Abram Block, became well known in California within ten years of operation for its pears and cherries. The Pratt-Low Preserving Company was established in 1905 and would become the largest operation in Santa Clara. By 1922, the company and shipped ten million cans of apricots, pears, peaches, cherries, and plums annually throughout the United States, England and Asia from its sprawling ten acre Santa Clara packing and processing plant. Pratt-Low alone employed 300 to 400 people to handle, sort and can during the harvest season. Rosenberg Bros. opened a branch in Santa Clara in 1915, its eighth in California and claimed to be the largest fruit packer in the State (City of Santa Clara 2016; Garcia 2002: 60-61, 90, 99).

Santa Clara Valley provided nearly half of the world's fresh, dried and processed fruit and remained the leading center for the industry by the end of World War II. Following the war, light industrial and high-tech research and development facilities, coupled with expanding suburban housing development, gradually replaced the valley's vast orchards, and ended the regions dominance in fruit packing and other industries of agriculture. Pratt-Low leased its plant to Duffy-Mott Company in 1960, who eventually closed the operation in the mid-1970s. The population of Santa Clara grew from 6,500 in 1940 to 86,000 by 1970 due to the increased pressure for housing. The region's landscape was transformed from rolling hills, valleys, and orchards into a modern center of industrial parks and suburban tracts dominated by single-family homes (Archives & Architecture 2012:45; Garcia 2002: 117; City of Santa Clara 2010: 3-3). (See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)

B12. References (See Continuation Sheet)
B13. Remarks: n/a
B14. Evaluator Aisha Fike, ICF International
Date of Evaluation October 29, 2016

(This space reserved for official comments.)

Primary # ______________________________
HRI # ______________________________

SKETCH MAP

Resource Name or (Assigned by recorder) 725 Mathew Street

Drawn by **Map by** Google Earth Pro, 2017, modified by Aisha Rahimi-Fike

Date of Map: October 2016

P3a. Description (continued):

A rectangular-shaped, wood-frame cannery addition (1950) attached to the east elevation of the original Cannery Building features a barrel roof with bow truss and corrugated metal cladding (see photograph 5 for rear elevation of former Cannery buildings and 6 for front elevation). The expanded Cannery Addition (1980) to the southeast of the original Cannery Building consists of a metal-frame, gable-roof and shed-roof extension building with corrugated metal siding (see photograph 6 for south [main] facades of the Cannery Additions, Warehouse, and Office). East of the Cannery Addition is the two-story, rectangular-shaped Warehouse building (1968), which sits at an east-west orientation and features wood-frame construction, a barrel roof and stucco siding. South of the 1968 Warehouse is an attached Office Building (1968) that is of wood-frame constriction with a front-facing gable roof with moderate eave overhangs, three replacement vinyl-frame window openings with sliding sashes, a single-entry flush door, and board-and-batten siding with brick veneer at the base. The Office Building was expanded with an Office Addition (1980) to the east in a similar construction, cladding and fenestration.

The set of attached buildings at the rear are largely warehouse buildings of wood-frame construction built between 1947 and 1964 as the cannery operation expanded (see photographs 8-9). The warehouses are of wood-frame construction and feature barrel roofs with bow trusses. A shed roof addition was constructed c. 1985 connecting the far eastern warehouse to the west warehouses with many of the wall partitions removed. Fenestration include large freight openings with metal roll-up doors and pedestrian openings with flush door. The c. 1985 remodel of the rear warehouses also included a complete recladding of the facades with stucco siding.

B6. Construction History (continued):

The Gangi Brothers Packing Company established itself on the 725 Mathew Street property in 1945. They constructed the original Cannery Building in 1946 with the second-story stack house added in 1969, the northeast Cannery Addition in 1951 and southeast Cannery Addition in 1980 (see DPR 523K Form Sketch Map for the location of the buildings and see table below). The Boiler House to the west of the original Cannery Building and the Warehouse at the rear of the property north of the original Cannery Building were both added the following year in 1947. The Warehouse Additions east of the first warehouse were constructed between 1950 and 1964 as needs of the cannery grew. A wood-frame Ramp House was added to the west elevation of the 1947 Warehouse in 1969 for the purposes of loading the packed freight onto the railroad via a reinforced concrete ramp. During the mid-1980s the rear warehouses were remodeled with stucco cladding and a narrow shed roof addition connecting the far east Warehouse to the west Warehouses. Connecting the east elevation of the Cannery Addition, another Warehouse was constructed in 1968 and an Office was added fronting the 1968 Warehouse the same year. The office was expanded to include an Office Addition to the east of the Office building in 1980 (Assessor files, historicaerials.com, Permits).

Date	Building/Structure	Major Alterations/ Additions	
1946	Original Cannery Building	1951	Cannery Addition (northeast)
		1969	Second-story addition
		1980	Cannery Addition (southeast)
1947	Boiler House	1950	Addition to the rear of Boiler House (demolished)
1947	Rear Warehouse	1950-1964	Four Warehouse Additions to the east
		c. 1985	Remodeled and narrow warehouse added
c. 1950	Two Sheds (southwest corner)	c. 1965	Demolished
c. 1950	Scale House and Scales (southeast)		Demolished
1968	Warehouse (northeast)		
1968	Office	1980	Office Addition (southeast)
1969	Ramp House		Railroad loading dock demolished

B10. Significance (continued):

Historic Context (continued)

The Gangi Brothers Packing Company

The Gangi Brothers Packing Company was a rather late-comer to the regions packing/canning industry. Specializing in processing and packing tomatoes, Gangi Brothers operated their packing plant from the Mathew Street site beginning in 1945. They produced 150,000 cases of tomato paste by the end of the following year and approximately 600,000 cases annually by mid-1950s. The family already had a long reputable history in the packing industry and growing tomatoes. The Gangi family had immigrated to New York from Sicily, starting a tomato packing plant on the banks of the Hudson River before the turn of the twentieth century. The Gangi family sold their business to relocate to California seeking the mild and the more ideal growing climate for tomatoes in 1916. Antonio Gangi co-founded the Contadina

Canning Company along with Frank Aiello and Antonio Morici in San Jose in 1917, but sold his interests in Contadina in 1936. Antonio Gangi's eldest son, Valentino, along with his three younger brothers, John, Peter, and Anthony, began their own family packing business on Mathew Street in Santa Clara in 1945 (See photograph 9 for a historic aerial image of the subject area circa 1950, and photograph 10 for a historic image of the original Cannery Building, 1946) (Garcia 2002: 113; Giovanzana 2013, VasonBranch.com 2014).

Historical data on the Gangi Brothers Packing Company and the Gangi family is limited. The boiler room explosion at the cannery in 1948, which fatally injured one worker and gravely injured several others, was reported in a number of newspapers. It can be assumed that the boiler room addition to the rear (which has been demolished) containing a flight of stairs was constructed in 1950 for safety measures. The Gangi Brothers Packing Company along with six other Northern California tomato and other fruit canners, filed a legal suit against Hunt Foods in 1952 and 1954, charging the company with violating the Cartwright Act, which outlawed combinations for the restriction of trade, and the Unfair Trade Practices Act of California, which made it illegal to sell goods at a price below the cost of production (SF Chronicle 1948, 1954).

Peter Gangi appears to have been somewhat involved in the canning business community serving as the elected chairman of the Canners League of California in 1975 and becoming a member of the league's "hall of fame," after his death in 1978. The Gangi Brothers Packing Company opened another packing plant in the central valley in Riverbank, California at an unknown date. They operated the Mathew Street site until approximately 2005 after the last and youngest of the original brothers, Anthony Gangi, passed away in October 2004, thereafter dissolving the company (SF Chronicle 1975, 1978; Assessor Records; Permits 2005, Find a Grave 2004).

Evaluation under the National Register of Historic Places (NRHP) Criteria A-D and the California Register of Historical Resources (CRHR) Criteria 1-4

The former Gangi Brothers Packing Company property at 725 Mathew Street in Santa Clara is not eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR).

CRITERION A and 1 (Events):

725 Mathew Street was constructed as a tomato canning plant for the Gangi Brothers Packing Company in 1945, long after the fruit canning and packing industry had been fully established in the Santa Clara Valley. The Gangi Brothers Packing Company started in Santa Clara during a time when the largely agricultural landscape was on the cusp of transforming into a landscape of residential subdivisions and sprawling industrial complexes. Although a late-comer to the canning and fruit packing business in Santa Clara County, the Gangi Brothers endured on the site operating as a tomato cannery for 59 years and continuing the long history of fruit packing in the region. Longevity of use however does not give the property sufficient historical significance for NRHP/CRHR eligibility under Criterion A/1. The Gangi Brothers Packing Company was one of many such tomato canneries in the region, along with Hershel California Fruit Products Co., Madonna Foods, Inc., San Jose Canning Co., and Thornton Canning Co. The Gangi Brothers did not make any significant contributions to the development or advancement of the canning industry. As a result, 725 Mathew Street is not eligible for listing on the NRHP under Criterion A or the CRHR under Criterion 1.

CRITERION B and 2 (Person):

The subject property was owned by the Gangi Brothers Packing Company and was operated and presided over by Valentino, John, Peter and Anthony Gangi Jr. The brothers started their joint venture in 1945, which lasted until the youngest brother's death in 2004. The Gangi brothers appeared to have come from a long family line of tomato processors and canners. Their grandfather established a tomato packing company in New York prior to the turn of the century and their father continued the family tradition in tomato processing after their move to California in 1916. The Gangi brothers established their own business on Mathew Street in Santa Clara after World War II. Although proprietors of a long-running family business, the Gangi brothers did not make any known contributions to the advancement of the tomato canning industry and did not establish their company in Santa Clara until the industry was already well-established. As such, the property is not eligible for listing on the NRHP under Criterion B or the CRHR under Criterion 2.

CRITERION C and 3 (Design/Construction):

Architecturally, the industrial style buildings on the property represent common characteristics of their respective building types. The property includes two rows of attached industrial and utilitarian storage buildings of varying ages that lack design cohesion. They are mainly constructed of wood frame and exhibit elements typical of most industrial complexes constructed during the 1950s and 1960s. The only known architect for the property is a Bothelia and Perez who designed and built the Scale House, Office Building and Warehouse in 1965-1968. Bothelia and Perez appear to have been little-known local contractors. Due to the property's lack of architectural distinction and lack of association with a significant architect/builder, the property is not eligible for listing in the NRHP Criterion C or CRHR Criterion 3.

CRITERION D and 4 (Information Potential)

The subject property does not appear to be significant under NRHP Criterion D or CRHR Criterion 4 as a source, or likely source, of important historical information related to the built environment, and it does not appear likely to yield important information about historic construction methods, materials, or technologies. No archeological evaluation was conducted for the purposes of this study and the property's potential for subsurface prehistoric and historic resources as well as impacts related to archeology is outlined under the ISMND listed in *P11 Report Citation of the above DPR 523 A form.

The Criteria for Local Significance (City of Santa Clara 2014)

The Criteria for Local Significance was adopted on April 20, 2004, by the City of Santa Clara City Council. Any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical or archaeological significance is potentially eligible.

Criterion for Historic or Cultural Significance: To be historically or culturally significant, a property must meet at least one of the following criterion:

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

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

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

Criterion for Geographical Significance: To be geographically significant, a property must meet at least one of the following criterion:

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

Criterion for Archaeological Significance: For the purposes of CEQA, an "important archaeological resource" is one which:

1. Is associated with an event or person of
   A. Recognized significance in California or American history, or
   B. Recognized scientific importance in prehistory.
2. Can provide information, which is both of demonstrable public interest, and useful in addressing scientifically consequential and reasonable or archaeological research questions;
3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4. Is at least 100 years old and possesses substantial stratigraphic integrity; or
5. Involves important research questions that historical research has shown can be answered only with archaeological methods.

Evaluation under the Criteria for Local Significance

Historic or Cultural Significance: Although the Gangi Brothers were late-comers to the canning and fruit packing business in Santa Clara County, they operated the site as a tomato cannery for 59 years, continuing the long history of fruit packing in the region. Longevity of use however does not give the property sufficient historical significance for local register eligibility. The Gangi Brothers Packing Company was one of many such tomato canneries in the region, along with Hershel California Fruit Products Co., Madonna Foods, Inc., San Jose Canning Co., and Thornton Canning Co. Although proprietors of a long-running family business, the Gangi Brothers did not make any known contributions to the advancement of the canning industry and did not establish their company in Santa Clara until the industry was already well-established in the area. Therefore, the property is not eligible for local listing under the Criterion for Historic or Cultural Significance.

Architectural Significance: The property is a common example of an industrial complex, is not associated with a known master architect or builder, and is not architecturally unique or innovative, does not represent a visual symbolic meaning for the community, nor possess notable attributes of an aesthetic or functional nature. Therefore, the property is not eligible for local listing under the Criterion for Architectural Significance.

Geographical Significance: The setting of the subject property has changed significantly since the property's construction and does not contribute to a neighborhood or unique area directly associated with the development of the tomato packing industry in Santa Clara. Although many of the adjacent properties are of similar light industrial uses, they do not present a visual continuity of character similar in design and compatibility to the subject property. There does not appear to be the potential for a historic district that would include the subject property as a contributor. Therefore, the property is not eligible for local listing under the Criterion for Geographical Significance.

Archaeological Significance: The property is not subject to this criteria because it is not an "archaeological resource."

Integrity

The property at 725 Matthew Street has undergone several changes over time. The original cannery and the remains of the boiler room are dilapidated and missing original features and the façade of the original cannery building is not visible behind a storage structure. The other former cannery buildings and warehouses have been extensively remodeled and expanded in a number of incompatible additions over the years. In addition, a number of the cannery buildings have been demolished including the boiler room addition, scale house and scales and sheds fronting Mathew Street. According to historic aerials and the historical data, the surrounding area was predominantly scattered industrial properties with large swaths of agricultural parcels during the first two decades of the construction of the property. Overall, the property has low integrity in its aspects of location, setting, design, materials, workmanship, association and feeling. The definition of integrity in the Santa Clara Historic Preservation and Resource Inventory follows the seven aspects of integrity of the NRHP and states furthermore that "to retain historic integrity, a property will always possess several, and usually most, of these aspects." The property does not retain any of the seven aspects of integrity, and therefore does not retain historic integrity.

Conclusion

Based on an evaluation under NRHP Criteria A–D, CRHR 1–4, and Santa Clara Historic Preservation and Resource Inventory criteria, the property at 725 Mathew Street does not convey sufficient historical significance nor retain sufficient historical integrity for listing on the NRHP, CRHR or local register as a historical resource.

The property is not a historical resource for the purposes of the California Environmental Quality Act (CEQA) and has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

B12. References (continued)

Archives & Architecture, LLC
2012 *County of Santa Clara Historic Context Statement.* Prepared for the County of Santa Clara Department of Planning and Development, San José, CA.

City of Santa Clara Planning Department, Permits
1965-2007 224 40 002. Available at the City of Santa Clara Permit Counter, Santa Clara, California.

City of Santa Clara
2010 *City of Santa Clara 2010[illegible]20[illegible] General Plan: Chapter [illegible] Treasuring Our Past, Present and Future.* Prepared for the City of Santa Clara, Santa Clara, California.

2014 General Plan – Appendix 8.9: Historic Preservation and Resource Inventory. Updated December 9. Available at http://santaclaraca.gov/home/showdocument?id=12893. Accessed: September 29, 2016.

2016 *The Mission City: A Brief History of Santa Clara.* Available at http://santaclara.gov/about/city-history/the-mission-city. Accessed October 28, 2016.

FindAGrave.com
200[illegible] "Anthony R. Red Gangi, Jr." Available at www.findagrave.com. Accessed October 29, 2016.

Garcia, Lorie, Giacomini, George, and Geoffrey Goodfellow
2002 *A Place of Promise: The City of Santa Clara 1[illegible]2[illegible]2002.* City of Santa Clara: Santa Clara, California.

Giovanzana, Teresa
201[illegible] "Delicious Tomato Memories," "Delicious Tomato Memories Part 2." Available at www.teresagiovanzana.com. Accessed October 28, 2016.

Historicaerials.com
2016 Aerials-1948, 1956, 1960, 1968, 1980, 1987, 1993, 1999, 2002, 2004, 2005, 2009, 2010, 2012, Nationwide Environmental Research, LLC. Accessed October 2016.

San Francisco Chronicle
1948 "One Killed, One Gravely Hurt in Cannery Blast." September 1, 1948: 26.
1954 "Canners File Suit against Hunt Foods." April 13, 1954: 16.
1975 "Chairman." April 18, 1975: 59.
1978 "Peter Gangi." December 22, 1978: 36.

Santa Clara County Assessor Records
224-40-002. Available at the Santa Clara County Assessor Office, San Jose, California.

Sourisseau Academy for State and Local History
2016 "Aerial View Santa Clara Industrial Buildings with Gangi Bros. Packing Co". Circa 1950s. Image by Del Carlso, Arnold. Contributed to the Online Archive of California. Available at http://www.oac.org. Accessed October 28, 2016.

VasonBranch.com
2014 "Packing Houses of Santa Clara County: Contandina Canning". Available at http://vasonbranch.com. Accessed October 29, 2016.

Photographs:

Photograph 2.
Front façade of former Cannery buildings. Former Boiler House to the left and original Cannery Building to the right. Note the storage addition conceals the main façade of the original Cannery Building. View northeast. Fike, 10/25/2016.

Photograph 3.
View of west façade of original Cannery Building. View east. Fike, 10/25/2016.

Photograph 4.
Rear of former Boiler House. View east. Fike□10/25/2016.

Photograph 5.
Rear □north□fa□ade of former Cannery Buildings. Original Cannery Building to the right. View southeast. Fike□10/25/2016.

Photograph 6.
Main □south□fa□ade of former Cannery Buildings. From far left□original Cannery Building□Cannery Addition□Office□Office Addition□and Warehouse to rear of Office Addition. View northwest. Fike□10/25/2016.

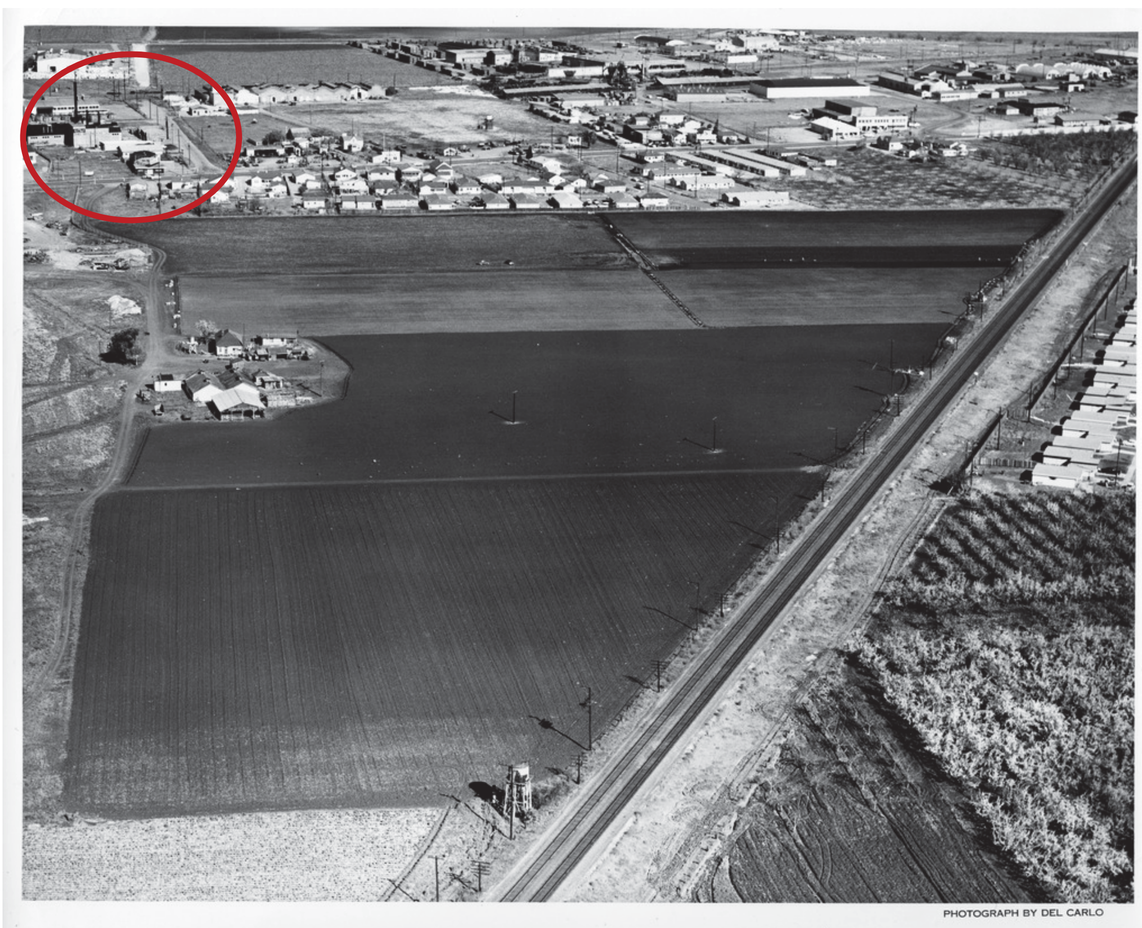
Photograph 7.
Main □south□fa□ade of rear Warehouse buildings. View northeast. Fike□10/25/2016.

State of California – The Resources Agency DEPARTMENT OF PARKS AND RECREATION **CONTINUATION SHEET**	Primary # ______ HRI # ______ Trinomial ______

*Resource Name or #(Assigned by recorder) 725 Mathew Street

*Recorded by Aisha Fike, ICF International *Date October 25, 2016 ☑ Continuation ☐ Update

Photograph 8.
Rear (north) façade of rear Warehouse buildings showing the railroad easement and the location of the former spur and railroad loading dock at the far end of the buildings. View west. Fike, 10/25/2016.



Photograph 9.
Aerial View of Santa Clara Industrial Buildings with Gangi Bros. Packing Co. Upper left corner of the image, identifiable by a large black chimney stack and indicated by a red outline. View East. Images by Arnold Del Carlo, circa 1950. Sourisseau Academy for State and Local History, contributed to the Online Archive of California.