Final Environmental Impact Report

Gateway Crossings Project

SCH #2017022066

Prepared by

In Consultation with

September 2018

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SECTION 1.0 INTRODUCTION

This document, together with the Draft Environmental Impact Report (EIR), constitutes the Final EIR for the Gateway Crossings Project.

1.1 PURPOSE OF THE FINAL EIR

In conformance with the California Environmental Quality Act (CEQA) and CEQA Guidelines, this Final EIR provides objective information regarding the environmental consequences of the proposed project. The Final EIR also examines mitigation measures and alternatives to the project intended to reduce or eliminate significant environmental impacts. The Final EIR is intended to be used by the City and any responsible agencies in making decisions regarding the project. The CEQA Guidelines advise that, while the information in the Final EIR does not control the agency's ultimate discretion on the project, the agency must respond to each significant effect identified in the Draft EIR by making written findings for each of those significant effects.

According to the state Public Resources Code Section 21081, no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless both of the following occur:

(a) The public agency makes one or more of the following findings with respect to each significant effect:

(1) Changes or alterations have been required in, or incorporated into, the project which will mitigate or avoid the significant effect on the environment.

(2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

(3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities of highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment.

1.2 CONTENTS OF THE FINAL EIR

CEQA Guidelines Section 15132 specify that the Final EIR shall consist of:

a) The Draft EIR or a revision of the Draft;
b) Comments and recommendations received on the Draft EIR either verbatim or in summary;
c) A list of persons, organizations, and public agencies commenting on the Draft EIR;
d) The lead agency's responses to significant environmental points raised in the review and consultation process; and
e) Any other information added by the lead agency.

1.3 PUBLIC REVIEW

In accordance with CEQA and the CEQA Guidelines, the City shall provide a written response to a public agency on comments made by that public agency at least 10 days prior to certifying the EIR. The Final EIR and all documents referenced in the Final EIR are available for public review at the Santa Clara Planning Division office in City Hall at 1500 Warburton Avenue, and the Santa Clara Central Library at 2635 Homestead Road on weekdays during normal business hours. The Final EIR is also available for review on the City's website: http://santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/157/3649.

SECTION 2.0 SUMMARY OF DRAFT EIR PUBLIC REVIEW PROCESS

The Draft EIR for the Gateway Crossings Project, dated April 2018, was circulated to affected public agencies and interested parties for a 45-day review period from April 10, 2018 through May 25, 2018.

The City undertook the following actions to inform the public of the availability of the Draft EIR:

- A Notice of Availability of Draft EIR was published on the City's website (http://santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/157/3649)
- Notification of the availability of the Draft EIR was posted at eight conspicuous locations within 1,000 feet of the project site, and mailed to property owners within 1,000 feet of the project boundaries and members of the public who had indicated interest in the project;
- The Draft EIR was delivered to the State Clearinghouse on April 10, 2018, as well as sent to various governmental agencies, organizations, businesses, and individuals (see Section 3.0 for a list of agencies, organizations, businesses, and individuals that received the Draft EIR); and
- Copies of the Draft EIR were made available on the City's website (http://santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/157/3649), City of Santa Clara Planning Division Office, and City of Santa Clara Central Library.

SECTION 3.0 DRAFT EIR OR NOTICE OF AVAILABILITY RECIPIENTS

CEQA Guidelines Section 15086 requires that a local lead agency consult with and request comments on the Draft EIR prepared for a project of this type from responsible agencies (government agencies that must approve or permit some aspect of the project), trustee agencies for resources affected by the project, adjacent cities and counties, and transportation planning agencies.

The Notice of Availability (NOA) was sent to owners and occupants within 1,000 feet of the project site. The following agencies received a copy of the Draft EIR for the Draft EIR from the City or via the State Clearinghouse:

- Air Resources Board, Major Industrial Projects
- California Department of Conservation
- California Department of Fish and Wildlife, Region 3
- California Department of Housing and Community Development
- California Department of Parks and Recreation
- California Department of Toxic Substances Control
- California Department of Transportation, District 4
- California Department of Transportation, Division of Aeronautics
- California Highway Patrol
- City of San José, Department of Planning, Building, and Code Enforcement
- City of San José, Department of Transportation
- Metropolitan Transportation Commission – Association of Bay Area Governments
- Native American Heritage Commission
- Office of Emergency Services, California
- Public Utilities Commission
- Regional Water Quality Control Board, Region 2
- Resources Agency
- Santa Clara Valley Transportation Authority
- Santa Clara Valley Water District
- State Water Resources Control Board, Division of Drinking Water

SECTION 4.0 RESPONSES TO DRAFT EIR COMMENTS

In accordance with CEQA Guidelines Section 15088, this document includes written responses to comments received by the City of Santa Clara on the Draft EIR. Comments are organized under headings containing the source of the letter and its date. The specific comments from each of the letters are presented with each response to that specific comment directly following. Copies of the actual letters received by the City of Santa Clara are included in their entirety in Appendix A of this document. Comments received on the Draft EIR are listed below.

Comment Letter and Commenter **Page of Response**

REGIONAL AND LOCAL AGENCIES

A. City of San José Airport Department (dated May 9, 2018)

Comment A.1: The City of San José Airport Department has reviewed the subject Draft EIR and finds all the aviation-related information and analyses to be adequately presented. Thus, we have no major concerns with the document, nor with the proposed project.

We do recommend two minor text clarifications to Transportation/Traffic Subsection 3.17.2.9 on Page 196 as follows:

- In the 1st sentence under "air Traffic Patterns", the phrase "…development on-site may penetrate FAR Part 77 surfaces" can be more explicitly revised to "…all proposed multi-family story structures on-site would need to be filed with the FAA for airspace safety review pursuant to the notification requirements of FAR Part 77".
- In the 3rd sentence under "Air Traffic Patterns", immediately after the term "Determination of No Hazard", insert the phrase "for each proposed structure".

These text revisions would better align Subsection 3.17.2.9 with the related text under Hazards and Hazardous Materials Subsection 3.9.2.4.

> **Response A.1:** The text of the EIR has been revised as suggested in the above comment. Refer to Section 5.0.

B. Santa Clara Unified School District (dated May 24, 2018)

Comment B.1: The Santa Clara Unified School District (District) appreciates the opportunity to respond to the Environmental Impact Report (EIR) for the Gateway Crossings Project (Project), by the City of Santa Clara. The 24 acres comprising the Project are currently in the Santa Clara Station Focus Area. The proposed project is requesting a General Plan Amendment to change the land use designation from Santa Clara Station Regional Commercial, Santa Clara Station High Density Residential and Santa Clara Station Very High Density to Very High Density Residential (51 to 100 units per acre) in conjunction with a minimum commercial 0.2 Floor Area Ratio. These changes have implications to the Santa Clara Unified School District.

The Project is proposing up to 1,600 residential units in a transit oriented development. The current land use designations for the property have less residential and more commercial uses planned. This project will eliminate some of the commercial and increase the amount of housing. The proximity to the various forms of public transportation, such as the Caltrain, Capital Corridor, Valley Transportation Authority bus service and the future terminus for the Bay Area Rapid Transit, will attract families who commute to work every day. The combination of these attributes in this Project will affect the District.

The Santa Clara Unified School District (SCUSD) is concerned about the 1,600 residential units proposed in the Project. Although the current student generation rates are do not anticipate many students from this development The student generation rates are the impacts to the increased student population and facilities at Scott Lane Elementary, Buchser Middle, Santa Clara High Schools and

the cumulative impact of all previously approved surrounding developments. Scott Lane and Santa Clara High schools are already over capacity and cannot absorb the students coming from approved future developments. In order to accommodate growth within the District, the SCUSD is planning and constructing a new elementary, middle and high school in north San Jose (Agnews). When the three schools open, the elementary and middle school will be close to capacity. Even with the Measure H 2014 Bond funds approved by the voters and the Statutory Developer Impact Fees, the District will not have enough funds to build all of the facilities required for the comprehensive educational experience the SCUSD strives to provide all of the students, much less modernize the existing schools, such as Scott Lane, to meet current educational needs.

Gateway Crossings is not the only residential development planned for Santa Clara. With the myriad of proposed developments within the District to be constructed, the District's Enrollment Projection Consultant's report, dated January 3, 2018, states the need for an additional elementary school north of 101 after the new construction at the Agnews property is completed. Therefore, the District will need funds to purchase property, design and construct additional schools and modernize existing schools.

Response B.1: The EIR evaluates the environmental impacts of a project. CEQA does not require an analysis of fiscal impacts, such as funding needed for new school facilities.

As discussed in Section 3.15.2.4 of the Draft EIR, students generated by the project would likely attend Scott Lane Elementary School, Buchser Middle School, and Santa Clara High School. According to the student generation rates provided by SCUSD, the project is estimated to generate 28-32 school aged children, which do not alone warrant construction of a new school. Section 3.15.2.4 of the Draft EIR discusses how SCUSD's new elementary, middle, and high school on the former Agnews Development site in north San José will alleviate capacity concerns for Buchser Middle School and Santa Clara High School, which are near capacity (see Table 3.15-1 on page 149 of the Draft EIR). For these reasons, the project would not result in the need for new or expanded school facilities. In addition, as discussed in Section 3.15.2.8 of the Draft EIR, the project's incremental increase (approximately 0.5 percent increase) in the number of residential units citywide would not be a considerable cumulative contribution to a significant cumulative impact to public services (including school facilities).

Section 3.15.2.4 of the Draft EIR also acknowledges that SCUSD has identified the need for an additional elementary school north of US 101 to accommodate future student enrollment, as mentioned in the above comment. In July 2017, the City circulated a revised Notice of Preparation for an Environmental Impact Report for the Tasman East Specific Plan (TESP). As part of the revised TESP, a new school of up to 600 students is included in response to SCUSD's need for an additional school north of US 101. The environmental review for the TESP is currently underway. When a specific property is identified within the TESP for a new school, the future school would be subject to supplemental site-specific CEQA environmental review.

Comment B.2: In order for the District to be able to meet the current facility requirements for all subjects including art, science, physical education, and music and accommodate all students within the District, the District requests a Voluntary Community Benefit Payment from developers. All state and local jurisdictions affected from the Project will collect 100% or more of the calculated impact of the project, except the District. School districts are at a disadvantage when collecting funds for capital improvements, since districts are restricted to charging a set amount per square foot of a new development. The Statutory Developer Impact Fee mandated by SB 50 for residential construction is currently $3.79 per square foot and the industrial and commercial construction is currently $0.61 per square foot. These Statutory fees do not adequately cover the land purchase, design, and construction cost incurred by the SCUSD for new or expanded school facilities.

The SCUSD's Residential Development School Fee Justification Study (RS), dated March 12, 2018, calculates the actual school facilities cost impact per residential square foot for multi-family attached homes to be $28.89 per square foot. This is a deficit of $25.10 for multi-family new residential per square foot constructed.

The Commercial/Industrial Development School Fee Justification Study (CID), dated March 12, 2018, calculates the actual net school facilities cost impact of new construction retail to be $2.90 per square foot. This is a deficit of $2.29 per square foot of retail constructed. The CID calculates the actual net impact of office space is $4.59 per square foot, which is a deficit of $3.98 per square foot. Therefore, the Santa Clara Unified School District is requesting developers provide for full mitigation of their impact through a combination of a voluntary community payment and the statutory development fee equal to the calculated impact in the SCUSD CID Study.

> **Response B.2:** As discussed in Section 3.15.2.4 of the Draft EIR, in accordance with Government Code Section 65996, the project shall pay the appropriate school impact fees to SCUSD. Under state law, the school impact fee is considered as an acceptable method of offsetting a project's effect on the adequacy of school facilities. As stated in Response B.1, CEQA does not require analysis of fiscal impacts.

Comment B.3: The students living in the Project must have a safe route on which to walk and/or ride their bike to school. Currently the students are slated to attend Scott Lane for elementary school, Buchser Middle and Santa Clara High. All of these schools are across high speed roadways. The District requests the EIR to study the opportunities for a safe and secure pathway for students and community members to walk and/or bike between the Project and all three of the schools the students will attend. We request the Project to conduct or fully fund a Study to create a Safe Routes to Schools map showing the safest route for the students to walk and/or bike to each of the schools. In addition, the Project will implement all recommendations of the Study for capital improvements along the pathways determined, such as safety enhancements to pedestrian crosswalks, designated bike lanes or additional traffic signals.

We also request the Project to fully fund the Safe Routes to Schools curriculum for grades K-8 for the elementary and middle school students for 5 years. Student safely is of paramount concern to the District and the Project must be proactive in mitigating any hazards that may affect the students.

Response B.3: The City of Santa Clara currently has a Safe Routes to School program funded by federal grant funds. This program aims to increase the number of students walking and biking to school. As part of the program, walk and bike audits are conducted at the schools participating in the program. These audits identify infrastructure needs or factors that hinder safe walking and bicycling to and from the schools. These needs are then further analyzed by the City and are either implemented by the City, should funds exist, or funding would be pursued by the City in order to implement these needs. Scott Lane is one of the schools participating in this program and walk/bike maps were created for this school in 2012. Buchser Middle School and Santa Clara High School are currently not part of the Safe Routes to School program. One of the tasks to be completed as part of the Santa Clara Pedestrian Master Plan, to begin in Fall 2018, will be conducting walk audits and developing walk to school maps for Buchser Middle School.

As discussed on page 147 of the Draft EIR, Scott Lane Elementary School is located approximately two miles from the project site, Buchser Middle School is located approximately 1.9 miles from the project site, and Santa Clara High School is approximately 3.5 miles from the project site. In general, destinations within ¼ mile of the site are considered walkable. Therefore, none of the public schools are within walking distance of the site. It is not anticipated that students from the proposed project would walk to school; therefore, there is no nexus for the City to require the project fund or implement improvements in the Safe Routes to School program.

In general, designations within a 10-minute bike ride, which equates to approximately one mile for elementary and middle school students and approximately two miles for high school students, are considered within biking distance for children. The local schools to the site, therefore, are not within typical biking distance and it is not anticipated students from the proposed project would bicycle to school.

Comment B.4: The combination of constantly increasing construction costs combined with lack of existing capacity in District schools, make it imperative the District continually plan for and collect adequate funding for school construction. The District will not support the Project unless full mitigation of the Project's impacts through a combination of voluntary community payments, the current Statutory Development Impact fees and creating and mapping a pathway for students to safely travel to school. The community benefit payment will allow the District to continue to house the additional students generated by this and other projects Districtwide and modernize existing classrooms and campuses. The City, District, and Developers must work together to create the best community for all residents.

Response B.4: Refer to Responses B.1 through B.3 above.

C. Santa Clara Valley Transportation Authority (dated May 25, 2018

Comment C.1: Santa Clara Valley Transportation Authority (VTA) staff have reviewed the Draft EIR (DEIR) for up to 1,600 residential units, 182,000 square foot hotel; and 15,000 square feet of retail uses on 24 acres at the southwest comer of Coleman Avenue and Brokaw Road.

> **Response C.1:** As described in Section 2.2.1.2 of the Draft EIR, the proposed hotel could be up to 200,000 square feet.

Comment C.2: We have the following comments.

Project Location and Land Use/Transportation Integration
VTA supports the proposed land use intensification, located near the Santa Clara Station and the center of the Santa Clara Station Focus Area as part of the City' General Plan. Santa Clara Station provides local service for two of VTA's busiest routes, 522 Blue (Rapid) and Route 22. The station also provides regional transportation options with service by Capitol Corridor, Caltrain and Altamont Corridor Express (ACE), and planned VTA BART Silicon Valley Phase II Extension. Additionally, per VTA's Board adopted Next Network FY 2018-2019 Transit Service Plan, the Coleman Avenue frontage will be served by VTA Frequent Route 60.

VTA's BART Silicon Valley Phase II Extension Project will bring BART to Santa Clara adjacent to the Gateway Crossings project. The Santa Clara station is anticipated to have 7,871 riders in 2035. About 34% of the riders are anticipated to walk or bike to the station, 30% are anticipated to take the bus, 7% are anticipated to take rail, and 20% are anticipated to drive. As such, it is important to have clear access/pathways between the Gateway Crossings and the Santa Clara station.

> **Response C.2:** As described on page 162 in Section 3.17.1.3 of the Draft EIR, access to the Santa Clara Transit Station from the project site is provided via Brokaw Road to a new pedestrian and bicycle undercrossing located west of the project site (and east of the UPRR tracks). The project includes replacing the curb, gutter, and sidewalk on Brokaw Road as necessary and a new bicycle lane on Brokaw Road west of Coleman Avenue to facilitate access. In addition, a new bicycle lane shall be installed along the project's Coleman Avenue frontage. Brokaw Road would also be designed such that it can accommodate future buses/shuttles accessing the future BART station. All of these improvements shall provide better access to the future BART station.

Comment C.3: Project Integration with Coleman Highline, San Jose
VTA noted in previous comments provided on March 23, 2017, that the Gateway Crossings' internal street network has limited relationship and connectivity to the surrounding context of existing streets. VTA is aware that the neighboring project immediately to the east of the site is the Coleman Highline in the City of San Jose by the same developer. VTA recommends a holistic review of both projects by both Cities in order to ensure a single network of streets and pathways that is seamless, convenient, and direct for all modes of travel. Given the proximity of both project sites to the Santa Clara Station, VTA strongly recommends maximizing multimodal access to the station in order to support transit ridership.

VTA is currently undertaking the BART Phase II TOD Corridor Strategy and Access Planning Study, with the participation of City staff and other stakeholders from the cities of San Jose and Santa Clara, in order to inform and maximize multimodal access planning at Santa Clara Station and other BART Phase II stations, with a final report available in the spring of 2019.

VTA recommends that the Gateway Crossings project's streets, Champion Parkway and Planned Champions Way and the Coleman Highline project's streets, Future Champions Way and Future Champions Drive, seamlessly connect with on a single grid. Future Champions Way/Champions Drive should be designed as an east-west 'Complete Street' since it will provide a primary connection to the Santa Clara Station. Other potential cross-border connectivity opportunities include an east-west pedestrian-bicycle connection parallel to and approximately 250 feet north of Future Champions Way/Champions Drive.

VTA recommends that all street and pathway network changes are clearly reflected in the Gateway Crossing's approval plans and documents, and memorialized across borders. All appropriate cooperative measures should be taken by both Cities to ensure such seamless connectivity.

> **Response C.3:** The applicant and cities of Santa Clara and San José are coordinating regarding the internal street network of the proposed project and the adjacent Coleman Highline project. The applicant and cities will consider the comment above to maximize multimodal access, create a grid network, and design Champions Way as a "complete street." The final street network and paths for the proposed project would be identified on the approved plans and documents, as recommended in the above comment. The design and construction of the street network and paths for the adjacent Coleman Highline project (which includes Champions Way) is under the jurisdiction of the City of San José.

Comment C.4: Pedestrian and Bicycle Accommodations
Reiterating the importance of maximizing multimodal access throughout the project site and to the station, VTA recommends that the City work with the Project Developer to provide exceptional pedestrian accommodations on all project frontages, including wide buffered sidewalks with street trees between pedestrians and automobiles.

> **Response C.4:** The project site fronts Coleman Avenue and Brokaw Road. As described in Section 2.2.1.6 of the Draft EIR, the project would widen Coleman Avenue along the project site frontage to include a new bike lane. The project site's frontage on Coleman Avenue would include a new sidewalk, park strip with landscaping, and bike lane between the project site and vehicle travel lanes. The project would replace the sidewalks, add a park strip with landscaping, and install a new bicycle lane on Brokaw Road west of Coleman Avenue to facilitate pedestrian and bicycle access.

Comment C.5: VTA recommends conveniently located bicycle parking. Bicycle parking facilities can include bicycle lockers or secure indoor parking for all-day storage and bicycle racks for short-term parking. VTA's Bicycle Technical Guidelines provide guidance for estimating supply, siting and design for bicycle parking facilities. This document may be downloaded from http://www.vta.org/bike-program.

Response C.5: As described in Section 2.2.1.5 of the Draft EIR, the project proposes one Class I bicycle parking space per three residential units and one Class II bicycle parking spaces per 15 residential units. The bicycle parking spaces would be provided within the residential parking garages and near the proposed neighborhood park. Text has been added to Section 2.2.1.5 of the Draft EIR to clarify that the project proposes to provide four Class II bicycle parking spaces for the proposed park; eight Class I bicycle parking spaces for the proposed 225 room hotel; one Class I bicycle parking space and five Class II parking spaces for the 15,000 square feet of proposed retail space; and 533 Class I bicycle parking spaces and 107 Class II bicycle parking spaces for the 1,600 residential units (see Section 5.0 of this Final EIR). In addition, these bicycle parking spaces for the hotel and retail land uses would be located at the main entrance and/or highly visible areas.

Comment C.6: The Coleman Avenue building frontage, which contains a VTA Frequent Route 60 bus stop, is set back from the street with landscaping between the sidewalk and the building. VTA recommends improving the quality of the pedestrian environment along Coleman Avenue by orienting the buildings toward and closer to the street, and providing transparent active ground floors. Such pedestrian- and transit-supportive measures would encourage greater trips by walking, and improve access to transit.

Response C.6: As identified in Section 2.2 of the Draft EIR, the development would have a minimum setback of 25 feet from Coleman Avenue. Residential Building 1, which would front Coleman Avenue, includes two levels of above ground podium parking. The project proposes to face the exterior of the parking with residential units, which would facilitate a more pedestrian-friendly environment (refer to Figure 2.2-2 in the Draft EIR). The project also includes new landscaping along the project site frontage that could facilitate a more pedestrian friendly environment.

Comment C.7: The TIA notes a "New Site Access along Coleman Avenue" that is separate from the Gateway Crossings project that will provide access to both projects. This access is the Future Champions Way associated with Coleman Highline. VTA recommends that the Gateway Crossings building frontages on Future Champions Way contain transparent active ground floors with primary building entrances that contribute toward a high-quality pedestrian environment and supports walkability.

Response C.7: Residential buildings 2 and 3, which each include two levels of above ground podium parking, would front planned Champions Way. The project proposes to face the exterior of the parking with residential units, which would facilitate a more pedestrian-friendly environment (refer to Figure 2.2-2 in the Draft EIR). The project also includes new landscaping along planned Champions Way that would facilitate a more pedestrian friendly environment.

Comment C.8: VTA notes that Brokaw Road will provide future bus access and kiss-and-ride locations for the planned BART Silicon Valley Santa Clara Station. Therefore, VTA recommends that Brokaw Road be designed as a 'Complete Street' that provides high-quality accommodations that prioritize pedestrian (e.g., detached, wide sidewalks) bicycle (e.g., bicycle lanes), bus and shuttle service access, while still serving motorists.

Response C.8: As described in Section 2.2.1.6 of the Draft EIR, the existing sidewalk on Brokaw Road would be replaced as necessary and include the addition of a landscaped park strip and installation of a new bicycle lane on Brokaw Road west of Coleman Avenue to facilitate pedestrian and bicycle access. Also refer to Responses C.2 through C.4.

Comment C.9: Freeway Analysis/Impacts

The DEIR identified 21 freeway segment impacts and states that the Project Developer will provide a voluntary contribution toward the VTA US 101 Double Express Lanes project. Other Valley Transportation Plan 2040 regional transportation improvement initiatives within the vicinity include:

1. US 101/ Trimble/ De La Cruz interchange improvements
2. US 101 SB/ SR 87 SB double off-ramp
3. US 101/ Zanker Rd interchange improvements

VTA recommends that the City require the project to contribute toward future project development phases (e.g. environmental clearance, design and/or construction) of the above noted initiatives.

Response C.9: The above suggested improvements would not mitigate the project's freeway impacts; therefore, there is no nexus to require the project to contribute a fair-share contribution to the above improvements.

Comment C.10: Auto Trip Reduction Statement (ATRS)

VTA notes that the TIA Report did not include an Auto Trip Reduction Statement (ATRS) as required per Section 8.2 and Appendix C of the updated 2014 VTA Transportation Impact Analysis (TIA) Guidelines. VTA notes that the ATRS is intended to highlight project features and efforts that improve the multimodal transportation system and reduce automobile trips, in addition to any formal trip reductions assumed in the TIA analysis. VTA requests that the Final TIA Report include a completed ATRS form. The October 2014 version of the VTA TIA Guidelines can be found online at http://www.vta.org/cmp/tia-guidelines.

Response C.10: Below is a completed Auto Trip Reduction Statement for the project.

AUTO TRIP REDUCTION STATEMENT

UPDATED: October 2014

SANTA CLARA Valley Transportation Authority

PROJECT INFORMATION	*Relevant TIA Section:*	Chapter 1. Introduction
Project Name: Gateway Crossings		
Location: 1205 Coleman Avenue, Santa Clara, CA		
Description: Up to 1,600 residential units and 215,000 s.f. of commercial space consisting of a 250-room hotel, and 15,000 s.f. of retail space		

Size (net new):	1,600	*D.U. Residential*	215,000	*Sq. Ft. Comm.*	24 *Acres (Gr.)*
Density:	67	*D.U. / Acre*	N/A		*Floor Area Ratio (FAR)*

Located within 2000 feet walking distance of an LRT, BRT, BART or Caltrain station or major bus stop? Yes

PROJECT AUTO TRIP GENERATION	*Relevant TIA Section:*	Chapter 4. Project Traffic Conditions	
Auto Trips Generated:	548 Net *AM Pk Hr*	778 Net *PM Pk Hr*	9,831 Net *Total Weekday*
Methodology (check one)	☒ **ITE**	☐ **Other** *(Please describe below)*	

AUTO TRIP REDUCTION APPROACH	*Relevant TIA Section:*	Chapter 4. Project Traffic Conditions	
☒ **Standard** *Complete Table A below*	☒ **Peer/Study-Based** *Complete Table B below*	☐ **Target-Based** *Complete Table C below*	☐ **None Taken**

TRIP REDUCTION REQUIREMENTS	*Relevant TIA Section:*	N/A
Is the project required to meet any trip reduction requirements or targets? No	**If so, specify percent:**	
Reference code or requirement:		

TRIP REDUCTION APPROACHES

A. STANDARD APPROACH	*Relevant TIA Section:*	Chapter 4. Project Traffic Conditions		
Type of Reduction *Specify reduction. See Table 2 in TIA Guidelines*		**% Reduction from ITE Rates**	**Total Trips Reduced (AM/PM/Daily)**	**TOTAL REDUCTION CLAIMED**
				% / **Trips**
Transit	Located within 2,000 ft. to a Caltrain station	9%	74/89/949	34% / AM - 82, PM - 117, Daily - 1,269
Mixed-Use	Housing & Retail/Hotel & Retail	15%/10%	8/28/320	
Financial Incentives				
Shuttle				

B. PEER/STUDY-BASED APPROACH	*Relevant TIA Section:*	Chapter 4. Project Traffic Conditions	
Basis of Reduction		**TOTAL REDUCTION CLAIMED**	
		%	**Trips**
A typical pass-by trip reduction of 25% for retail development within Santa Clara County was applied to the retail component of the proposed project. Justification for applying the pass-by-trip reduction is founded on the observation that such retail traffic is not actually generated by the retail development, but is already part of the ambient traffic levels. Pass-by-trips are therefore excluded from the traffic projections (although pass-by traffic is accounted for at the site entrances).		25%	AM - 0 PM - 11 Daily - 11

C. TARGET-BASED APPROACH			Relevant TIA Section:		
Type of Reduction (check all that apply)				TOTAL REDUCTION CLAIMED	
❒ % Trip Reduction	❒ % SOV mode share	❒ Trip Cap		%	Trips
Description					
Time period for reduction	Peak Hour	Peak Period	Full Day		
	❒ AM/PM	❒ AM/PM	❒		

OTHER TDM/REDUCTION MEASURES			
Bicycle/Pedestrian	Yes	Relevant TIA Section:	COA
Class 2 Bicycle lanes will be added along the Coleman Ave. frontage. Class 2 bike lanes will also be added on both sides of Brokaw. A minimum 8' wide sidewalk + landscape strip will be installed along Coleman Ave. and Brokaw frontage.			
Parking Management	No	Relevant TIA Section:	N/A
Transit	Yes	Relevant TIA Section:	Chapter 6. Other Transportation Issues
Southbound Coleman Ave, south of Brokaw Rd: Project is required to install a bus duck out, bus pad, bus shelter and bench per VTA requirements.			
Site Planning and Design	No	Relevant TIA Section:	N/A
TDM Program	Yes	Relevant TIA Section:	COA
A TDM program is required as the project is required to reduce VMT by 20% with 10% reduction coming from TDM measures.			

IMPLEMENTATION	Relevant TIA Section:	N/A
Have the project sponsor and Lead Agency agreed to any of the following measures?		
■ Monitoring	An annual mode share survey will be required. In addition, driveway counts will be conducted every year to verify if they meet their VMT reduction requirements.	
■ Enforcement	If driveway counts show that they are not meeting their VMT reduction requirements, then they will need to modify the TDM measures to be in compliance.	
■ Data Sharing	Annual TDM report will be submitted to City to report compliance or non-compliance with VMT reduction requirements.	

Comment C.11: Transportation Analysis

The TIA recommends limiting Driveway 1 to a right-in right-out configuration but is unclear whether and to what extent this will impact the intersection of Coleman/Brokaw. VTA recommends that the TIA address any improvements needed at the Coleman/Brokaw intersection with the addition of 114 AM peak-hour/320 PM peak-hour vehicles turning left onto Brokaw and 101 AM peak-hour/78 PM peak-hour vehicles turning left onto Coleman.

Response C.11: The City shall require Driveway 1 to have a right-in and right-out configuration. In addition, vehicles would also be allowed to make a left-in or left-out at the future Champions Way/Coleman Avenue intersection to access the project site. The traffic study also took this recommendation into account when analyzing the Coleman Avenue and Brokaw Road intersection.

Comment C.12: Intersection Analysis/Impacts

VTA has the following comments on the three CMP Intersections identified in the DEIR/TIA that would be impacted per CMP LOS standards.

1. De La Cruz Boulevard and Central Expressway
   The proposed mitigation measure identifies the conversion of HOV to mixed-flow lanes on Central, and the second mitigation should be updated to the VTA US 101 Trimble/ De La Cruz interchange improvements project for a fair-share contribution. Please consult with the County of Santa Clara and VTA regarding this proposed mitigation.

Response C.12: As discussed in Section 3.17 of the Draft EIR, the project would result in significant level of service impacts at the intersection of De La Cruz Boulevard and Central Expressway under existing plus project, background plus project, and cumulative plus project conditions. As stated in mitigation measure MM TRAN-1.2 described on page 181 of the Draft EIR, the project shall make a fair-share contribution conversion of the single HOV lane in each direction to mixed-flow lanes on Central Expressway and adding a second southbound right-turn lane and a third northbound left-turn lane. As discussed on pages 181, 194, and 206 of the Draft EIR, these improvements would improve average delay at the intersection over conditions without the proposed project and thus mitigate the project's impact at this intersection. The project's impacts are concluded to be significant and unavoidable, however, because the improvement at this intersection are not under the jurisdiction of the City of Santa Clara, and the City cannot guarantee the implementation of the improvements concurrent with the proposed project. This intersection is under the control of Santa Clara County. If the County ultimately decides that it wishes to construct a different improvement, then the project's contribution payment could be transferred to the alternative improvement.

Comment C.13:

2. Lafayette Street and Central Expressway
   The proposed mitigation measure for conversion of HOV to mixed-flow lanes on Central Expressway should be enhanced to include the addition of bike lane striping. Please consult with the County of Santa Clara regarding this proposed mitigation.

Response C.13: As discussed in Section 3.17 of the Draft EIR, the project would result in significant level of service impacts at the intersection of Lafayette Street and Central Expressway under background plus project and cumulative plus project conditions. As stated in mitigation measure MM TRAN-3.1, the project shall make a fair-share contribution to the conversion of the single HOV lane in each direction to mixed-flow lanes on Central Expressway. As discussed on pages 193 and 205 of the Draft EIR, this improvement would improve the LOS to an acceptable LOS E during the AM peak hour and would improve the average delay at the intersection over conditions without the proposed project during the PM peak hour. Thus, this improvement would mitigate the project's impact at this intersection. The project's impacts are concluded to be significant unavoidable, however, because the improvement at this intersection are not under the jurisdiction of the City of Santa Clara and the City cannot guarantee the implementation of the improvements concurrent with the proposed project. The details of the improvement plan at this intersection are not known at this time. If the improvement plan ultimately includes bike lane striping, the project's contribution payment could be used for that striping.

Comment C.14:

3. Coleman Avenue and I-880 (S)
   Please consult with the City of San Jose regarding the proposed mitigation measure for the widening of Coleman Avenue.

Response C.14: As discussed on page 194 of the Draft EIR and stated in mitigation measure MM TRAN-3.2, the mitigation includes restriping the I-880 northbound off-ramp and not widening Coleman Avenue. The City of Santa Clara consulted the City of San José regarding this mitigation measure.

Comment C.15: After all feasible mitigation measures are applied, the above noted CMP Intersections may remain Significant and Unavoidable Impacts. VTA requests that the City prepare a Multimodal Improvement Plan to address the Project's impacts on CMP transportation facilities. The California CMP statute requires Member Agencies to prepare Multimodal Improvement Plans for CMP facilities located within their jurisdictions that exceed, or are expected to exceed, the CMP traffic.

The preparation of a Multimodal Improvement Plan is an opportunity to implement multimodal (non-automotive) transportation improvements as offsetting measures, when mitigations to meet the LOS standard are either infeasible or undesirable. The Multimodal Improvement Plan contains a list of actions to help offset the vehicular LOS impacts, and an implementation plan with specific responsibilities and a schedule. These off-setting improvements can include improvements to transit, bicycle, and/or pedestrian facilities, as well as Transportation Demand Management (TDM) Programs. VTA can assist the City in identifying off-setting improvements and alternatives to physical improvements at CMP intersections in the City of Santa Clara. For further information on Multimodal Improvement Plans (previously "Deficiency Plans"), please see VTA's Deficiency Plan Requirements located online at: http://www.vta.org/technical-guidelines.

Response C.15: As discussed in the Draft EIR and in Responses C.12 through C.14, the project would result in significant impacts at CMP intersections and shall implement mitigation measures to mitigate the project's impacts. The impacts at CMP intersections would be mitigated to less than significant levels and, therefore, a Multimodal Improvement Plan to further reduce impacts is not warranted. The project's impacts at CMP intersections outside of the City's jurisdiction were only concluded to be significant and unavoidable because the City cannot guarantee the implementation of the improvements concurrent with the proposed project.

Comment C.16: Continued Coordination with BART Silicon Valley Extension

As noted above, the proposed development site is adjacent to the planned location of VTA's BART Silicon Valley Extension's Santa Clara Station and Newhall Yard. Information about the station and yard planned configuration and associated access and activities can be found in the *BART Silicon Valley Phase II Extension Supplemental Environmental Impact Report/Subsequent/Environmental Impact Statement*, which can be accessed at http://www.vta.org/bart/environmentalphaseII. VTA encourages ongoing coordination between the project applicant, City of Santa Clara and VTA.

Response C.16: The applicant and the City of Santa Clara shall coordinate with VTA regarding the planned BART Silicon Valley Phase II Extension, which includes a maintenance facility ("Newhall Yard").

Comment C.17: Transportation Demand Management/Trip Reduction

Given the size of the project and limited roadway access to and from the project area, the project should include a robust Transportation Demand Management (TDM) Program to reduce auto trips, vehicle miles traveled and greenhouse gas emissions. Such measures will be critical in order to facilitate efficient transportation access to and from the site and reduce transportation impacts associated with the project. VTA supports City of Santa Clara Focus Area policy 5.4.2- P11 to reduce parking ratios and promote alternate use of transportation in the surrounding area. VTA recommends that the City consider the following TDM/Trip Reduction strategies:

- Project design to encourage walking, bicycling, and convenient transit access;
- Parking cash out/parking pricing;
- Adoption of an aggressive trip reduction target with a Lead Agency monitoring and enforcement program;
- Transit fare incentives such as such as free or discounted transit passes on a continuing basis;
- First mile/last mile ride sharing voucher
- Public-private partnerships or employer contributions to provide improved transit or shuttle service in the project area.
- Bicycle lockers and bicycle racks
- Showers and clothes lockers for bicycle commuters
- Parking for car-sharing vehicles
- Reduced parking ratios

Response C.17: As part of the project, a Vehicle Miles Traveled (VMT) Reduction Plan shall be developed and implemented. As described in Section 2.2.1.4 of the Draft EIR, the VMT Reduction Plan shall achieve a 20 percent reduction in project VMT, half of which (a 10 percent reduction) shall be achieved with Transportation Demand Management (TDM) measures. Text to the EIR has been added to clarify that the project's VMT Reduction Plan is subject to the City's annual reporting requirements. In addition, the text of the EIR has been revised to identify the above suggested TDM/trip reduction strategies as possible TDM measures. Refer to Section 5.0 of this Final EIR for the text revisions to the Draft EIR.

Comment C.18: Parking

VTA also recommends that the Cities of San Jose and Santa Clara, and VTA work toward a shared parking strategy for the pending developments and the Santa Clara Station that is balanced, while at the same time stays focused on pedestrian, bicycle, and transit modes as the primary access to the Santa Clara Station area.

Response C.18: The City of Santa Clara is committed to coordinating with the City of San José and VTA regarding a shared parking strategy for the pending developments and the Santa Clara Station.

D. Lozeau Drury LLP (dated May 24, 2018)

Comment D.1: I am writing on behalf of the Laborers International Union of North America, Local Union 270 and its members living in Santa Clara County and/or the City of Santa Clara ("LiUNA"), regarding the Gateway Crossings Project, aka SCH2017022066, PLN2016-12318, PLN2016-12321, PLN2016-12481, and CEQ2016-01025, including all actions related or referring to the proposed construction of a phased mixed-use development, to include up to 1,600 residential units, 182,000 square foot hotel, 15,000 square feet of ancillary retail, and parking at 1205 Coleman Avenue on APNs: 230-46-069 and 230-46-070 in the City of Santa Clara.("Project").

We have reviewed the Draft Environmental Impact Report ("DEIR") for the Project and conclude that the document fails to comply with the California Environmental Quality Act ("CEQA"). We reserve the right to supplement these comments at later hearings on the DEIR and Final EIR. Thank you.

> **Response D.1:** The City of Santa Clara prepared the Draft EIR for the project in compliance with the requirements of CEQA and the CEQA Guidelines. As described in Section 2.2.1.2 of the Draft EIR, the proposed hotel could be up to 200,000 square feet.

E. Adams Broadwell Joseph & Cardozo (dated May 25, 2018)

Refer to Comment Letter F in Appendix A of this Final EIR/Responses to Comments document for the footnotes and attachments included with this comment letter.

Comment E.1: On behalf of Santa Clara County Residents for Responsible Development we submit these comments on the City of Santa Clara's ("City") Draft Environmental Impact Report ("DEIR") prepared pursuant to the California Environmental Quality Act ("CEQA") and its implementing Guidelines, for the Gateway Crossings Project ("Project") proposed by Hunter Storm Properties ("Applicant"). The project proposes to build on a 23.8-acre site up to 1,600 residential units, an 182,000 square foot full service hotel, 15,000 square feet of ancillary retail, surface and structured parking, public and private streets, a neighborhood park and open space, and new infrastructure and utilities. The Project site is located on 1205 Coleman Avenue, at the southwest corner of Coleman Avenue and Brokaw Road. (APN Nos. 230-46-069 and 230-46-070).

> **Response E.1:** As described in Section 2.2.1.2 of the Draft EIR, the proposed hotel could be up to 200,000 square feet. The project does not propose new public streets or infrastructure and utilities, as suggested in the above comment. As described in Section 2.2.1, the project would construct new private streets internal to the site, widen the existing Coleman Avenue, improve existing right-of-way, construct new utility laterals to the existing utility service systems, and underground the existing overhead electrical lines along the project site frontage on Brokaw Road.

Comment E.2: The DEIR states that the Project requires the following discretionary actions of the City: (1) General Plan Amendment (GPA) to change the land use designation on the site to Very High Density Residential; (2) An amendment to the General Plan Land Use Map for the Santa Clara Station Focus Area to reflect the General Plan change; (3) An amendment to Appendix 8.13 to the General Plan (the Climate Action Plan) to establish a 20 percent reduction in Vehicle Miles Traveled (VMT), half of which (a 10 percent reduction) would be achieved with a Transportation Demand Management (TDM) program; (4) Zoning Code text amendment to add a new zoning designation of Very High Density Mixed Use to facilitate the development of the land uses and building types contemplated for the Project site; (5) Rezoning of the Project site to the new zoning designation; (6) Vesting Tentative Parcel Map and (7) Development Agreement.

Based on our review of the DEIR, appendices and other relevant records, we conclude that the DEIR fails to meet the requirements of CEQA. First, the DEIR fails to properly disclose, analyze and mitigate impacts on air quality and public health. Second, the DEIR conclusion that impacts from air quality and public health are less than significant (some with and others without mitigation) is not supported by substantial evidence. Third, substantial evidence shows that the Project's impacts on air quality and public health will be significant. Fourth, the DEIR conclusion that impacts from GHG are significant and unavoidable is not supported by substantial evidence. Fourth, the DEIR fails to properly disclose, analyze and mitigate the Project's transportation and traffic impacts. Fifth, the Project does not comply with the General Plan Policies regarding affordable housing.

> **Response E.2:** The City of Santa Clara prepared the Draft EIR for the project in compliance with the requirements of CEQA and the CEQA Guidelines. Refer to Responses E.3 through E.47.

Comment E.3: We prepared these comments with the assistance of air quality expert Hadley Nolan and hazardous materials expert Matt Hagemann, P.G., C.Hg. of Soil I Water I Air Protection Enterprise ("SWAPE"), and with the assistance of traffic and transportation expert Dan Smith of Smith Engineering & Management. SWAPE's and Mr. Smith's comments and curriculum vitae are attached hereto as Exhibit A and Exhibit B, respectively, and are fully incorporated herein and submitted to the City herewith. Therefore, the City must separately respond to the technical comments of SWAPE and Mr. Smith in addition to our comments.

> **Response E.3:** Refer to Responses E.28 through E.47 for responses to the technical comments of SWAPE and Mr. Smith.

Comment E.4: We urge the City to reject the DEIR and direct staff to prepare and recirculate a revised Draft EIR that properly analyzes, addresses and mitigates the Project's potentially significant impacts, as required by CEQA.

Response E.4: The City of Santa Clara prepared the Draft EIR for the project in compliance with the requirements of CEQA and the CEQA Guidelines. The recirculation of an EIR is required when significant new information is added to the EIR (CEQA Guidelines Section 15088.5). The comments raised in this letter do not identify a new or more significant impact, or a new feasible project alternative or mitigation measure considerably different than identified in the Draft EIR (refer to Responses E.1 through E.47). For these reasons, the EIR does not need to be recirculated.

Comment E.5: I. STATEMENT OF INTEREST

Santa Clara Residents is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential public and worker health and safety standards and environmental impacts associated with Project development. Santa Clara Residents includes the International Brotherhood of Electrical Workers Local 332, Plumbers & Steamfitters Local 393, Sheet Metal Workers Local 104, Sprinkler Fitters Local 483, and their members and families, and other individuals that live and/or work in the City of Santa Clara and Santa Clara County.

Individual members of Santa Clara Residents and the affiliated labor organizations live, work, recreate and raise their families in the City of Santa Clara and Santa Clara County. They would be directly affected by the Project's environmental and health and safety impacts. Individual members may also work on the Project itself. Accordingly, they will be first in line to be exposed to any health and safety hazards that exist onsite. Santa Clara Residents have a strong interest in enforcing the State's environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making it less desirable for businesses to locate and people to live there.

Response E.5: The above comment does not pertain to the environmental effects of the project addressed in the EIR; therefore, no response is required.

Comment E.6: II. THE PROJECT FAILS TO COMPLY WITH THE GENERAL PLAN POLICIES

According to the DEIR, the project requires amending the General Plan to accommodate 122-322 more residential units than allowed under the City's General Plan, and to "redefine the land use boundaries and densities within the site." The DEIR, however, almost completely ignores the General Plan policies regarding affordable housing.

The "Residential Land Use Goals" of the City's General Plan include several goals relating to affordable housing, including the following goals:

> "5.3.2-G1Equitable housing opportunities within the community for persons of all economic levels, regardless of religion, gender, sexual orientation, marital status, national origin, ancestry, familial status, race, color, age, source of income or mental or physical disability.

5.3.2-G2 A variety of housing types, sizes, location and tenure in order to maintain social and economic diversity in the City.

5.3.2-G3 Affordable housing units dispersed throughout the City to avoid a concentration in any one neighborhood."

The "Residential Land Use Policies" of the General Plan also call for more affordable housing, with a special emphasize on citing affordable housing near transit:

"5.3.2-Pl Encourage the annual construction of the housing units necessary to meet the City's regional housing needs assessment by reducing constraints to housing finance and development.

5.3.2-P6 Provide adequate choices for housing tenure, type and location, including higher density, and affordability for low- and moderate-income and special needs households.

5.3.2-P9 Encourage senior and group residential facilities, and affordable housing developments near neighborhood retail, support services and transit facilities.

5.3.2-P10 Create opportunities for affordable housing and housing to support special needs populations, including Extremely Low Income households."

Despite these extensive and clear policies, the DEIR only mentions policies 5.3.2-Pl and 5.3.2-P6 in its discussion of land use and planning for the Project.

In addition to the General Plan Residential Land Use Goals and Residential Land Use Policies, the General Plan policies for the Santa Clara Station Focus Area, in which the Project is located, specifically calls for the development of affordable housing within the Focus Area.

"5.4.3-P20 Highly encourage the development of affordable housing and senior housing that is well designed and compatible with adjacent uses in the Santa Clara Station Focus Area."

However, the DEIR *fails* to include this Focus Area policy anywhere in its discussion of land use policies relevant to the Project site at 1205 Coleman Avenue:

According to the California Department of Housing and Community Development, the City has made "insufficient progress" toward its Lower Income Regional Housing Needs Allocation (RHNA), which includes housing for very low and low income. Under these circumstances, the City lacks any basis for ignoring its own affordable housing policies, despite adding a significant number of units beyond what is allowed under the General Plan.

To be clear, the Project does not include *any* affordable housing units, in complete disregard of the applicable General Plan policies. Although in section 7.0 of the DEIR, the City discusses a "Reduced Development Alternative" and states that "[i]t is possible the Reduced Development Alternative could meet City objectives 2 and 4 of providing sustainable residential mixed-use

development with affordable housing," the City also fails to explain why the Reduced Development Alternative would comply with the General Plan's affordable housing goals and policies.

Response E.6: The EIR evaluates the environmental impacts of a project. CEQA does not require an analysis of socioeconomic impacts, such as the provision of affordable housing.

CEQA Guidelines land use threshold (b) is whether the project would "Conflict with any applicable land use plan, policy or regulation…adopted for the purpose of avoiding or mitigating an environmental impact." The affordability of the proposed residential units is not an environmental issue and the City's General Plan policies regarding affordable housing do not avoid or mitigate an environmental impact. For these reasons, a discussion of the project's consistency with the City's General Plan affordable housing policies are not discussed in the EIR.

The commenter's assertion that "the Project does not include *any* affordable housing units" is false. The proposed project, as well as the project alternatives (including the Reduced Development Alternative), would be subject to a Development Agreement. One component of the Development Agreement is that the project is required to provide a minimum percentage of units within the project as designated affordable units, and to pay an affordable housing fee toward the provision of affordable housing offsite.

Comment E.7: III. THE DEIR FAILS TO ADEQUATELY DISCLOSE, ANALYZE, AND MITIGATE SIGNIFICANT IMPACTS ON AIR QUALITY AND GHG

A. Legal Background

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances).

The EIR is the very heart of CEQA. "The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR "protects not only the environment but also informed self-government." The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly

reduced." If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. *A clearly inadequate or unsupported study is entitled to no judicial deference.*" As the courts have explained, "a prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process."

Response E.7: The first comment is not accurate. If there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment, the agency shall prepare an environmental impact report (Public Resources Code Section 21080[d] and CEQA Guidelines Section 15064[a][1]).

The above comment also speaks to three of the four basic purpose of CEQA identified in CEQA Guidelines Section 15002. The four basic purposes of CEQA are to: 1) inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities; 2) identify the ways that environmental damage can be avoided or significantly reduced; 3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and 4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved. The comment does not raise any specific questions regarding the environmental analysis provided in the DEIR; no further response required.

Comment E.8: B. The City Lacks Substantial Evidence to Support its Conclusions regarding Impacts on Air Quality. Substantial Evidence shows the Project May Result in Potentially Significant, Unmitigated Impacts on Air Quality

In the Air Quality section of the DEIR, the City is required to disclose, analyze and propose mitigation to reduce the Project's construction and operation emissions of pollutants to less than significant levels. However, as shown by SWAPE and explained below, the DEIR analysis and conclusion are flawed, because they rely on unsubstantiated input parameters, do not properly account for the Project's trip generation and fail to account for overlap in construction and operational emissions. As a result, the DEIR conclusions regarding the Project's impacts on air quality are not supported by substantial evidence. Moreover, SWAPE preformed an updated operational emissions analysis, based on the Project's actual data and agency accepted methods for air quality evaluation, and found that the Project's ROG and NO_x emissions exceed the significance threshold set forth by the Bay Area Air Quality Management (BAAQMD) for mixed-use projects.

Response E.8: Refer to Responses E.9 through E.39. The responses below reiterate that the project's impacts on air quality were adequately addressed and appropriate mitigation to reduce impacts were identified.

Comment E.9: 1. The DEIR's Air Quality Analysis Fails to Include All Land Uses and Underestimates Land Use Sizes

SWAPE's review of the DEIR's CalEEMod output files for Option 2 (the preferred option) demonstrates that incorrect land use sizes were used to estimate emissions. As a result, the construction and operational emissions are underestimated:

- The DEIR's emission model only accounted for 225 hotel rooms, even though the Project proposes 250 rooms;
- The DEIR's emission model only accounted for 1,581 residential units, even though the Project proposes 1,600 units; and
- The DEIR's emission model completely omitted the 10,000 square foot restaurant use proposed in the Project.

As a result of the DEIR analysis failing to evaluate emissions from the actual proposed Project, SWAPE concludes that "the construction and operational emissions associated with the Project are incorrect and should not be relied upon to estimate emissions." Indeed, the DEIR's analysis lacks substantial evidence to support its conclusion regarding air quality impacts.

Response E.9: The emissions modeling inadvertently modeled a slightly lower number of residential units (1,581 instead of 1,600). While the project description is for up to 250 hotel rooms, the applicant intends to construct only 225. For this reason, the emissions were modeled for the correct number of hotel rooms. Emissions were remodeled with the correct number of residential units for each phase and refined construction equipment use provided by the project applicant. A supplemental memo for this modeling was completed and the EIR has been revised to include this memo (refer to Section 5.0). The modeling found the project would result in similar construction criteria air pollutant emissions as identified in the Draft EIR.

The text of the EIR has been revised to reflect the updated modeling results accordingly (refer to Section 5.0). The impact conclusion, with the updated modeling results, would be the same as identified in the Draft EIR.

The modeling for the project's operational emissions for the Draft EIR is accurate and reflects the proposed development. The project's operational emissions discussed in the Draft EIR and Appendix B of the Draft EIR are correct.

The hotel restaurant does not need to be modeled separately. The CalEEMod relies on land use data and trip generation data to estimate emissions. The hotel land use

and trip generation includes supporting facilities such as restaurants.[1] For this reason, the emissions for the proposed 10,000 square foot hotel restaurant are accounted for in the emissions calculation for the proposed hotel rooms.

Comment E.10: 2. The DEIR Uses Incorrect Trip Purpose Percentage

SWAPE's review found that the DEIR's analysis of the Project's operational emissions improperly double-counts the number of pass-by trips expected to occur throughout Project operation. As a result, the Project's operational emissions are underestimated.

There are three types of trips generated by the Project: primary trips, diverted trips and pass-by trips. Pass-by trips are assumed to be very short -0.1 miles in length and are a result of no diversion from the primary route. The other two types of trips generated by the Project, primary and diverted trips, are longer and, as a result, create a more significant impact on air quality.

SWAPE found that although pass-by trips for the retail land use were already accounted for in the TIA's Traffic Generation calculation, the trip purpose percentage was divided amongst primary, diverted, and pass-by trip types for the Project's proposed retail land uses.

As explained by SWAPE: "By spreading the trip purpose percentages amongst the three categories, the model is accounting for pass-by trips that have already been accounted for in the TIA. Because the proposed Project's CalEEMod model incorrectly allocates the Project's operational trips to the various categories of trip purposes, the emissions associated with these trips are underestimated, and as a result, the Project's operational emissions are underestimated. An updated CalEEMod model must be prepared in an updated DEIR in order to accurately estimate the Project's operational emissions."

Therefore, the DEIR's analysis lacks substantial evidence to support its conclusion regarding the Project's operational air quality impacts.

Response E.10: The air quality and greenhouse gas analysis completed for the project and included in Appendix B of the Draft EIR used the CalEEMod default rate for both pass-by and diverted trips. The CalEEMod model did not include the TIA pass-by trip reduction. CalEEMod assigns 15 percent of daily retail trips as pass-by trips. The Transportation Impact Analysis (TIA) for the proposed retail conservatively assumed only approximately 25 percent of the PM peak hour trips (which equates to two percent of the daily trips) would be pass-by trips. In reality, pass-by trips occur at other times outside of the PM peak hour and approximately 20-40 percent of daily retail trips are generally pass-by trips. For this reason, the CalEEMod default rate of 15 percent of the daily trips as pass-by trips is appropriate, though still conservative and the emissions from project trips are not underestimated. Note that the discrepancy between the method used in the Draft EIR air quality

[1] Institute of Transportation Engineers. *Trip Generation Manual.* 9th Edition, Volume 2: Data. 2012. Page 603.

analysis and the SWAPE statement is 85 out of 9,831 daily trips forecasted (i.e., less than one percent of total trips).

Comment E.11: 3. The DEIR Fails to Account for Overlap in Construction and Operational Emissions

According to the DEIR, Project construction is expected to occur in five phases, with each phase expected to be operational once construction is complete. Thus, SWAPE explain, "when construction of Phase 5 begins, the previous four phases will be in operation. Due to these overlaps, the DEIR should have evaluated the Project's air quality impact assuming that construction of Phase 2 through Phase 5 and operation of the previous phase or phases would occur concurrently. Review of the DEIR, however, demonstrates that no such analysis was conducted, leaving a gap in the DEIR's evaluation of the Project's potential impacts." As a result, the DEIR's analysis fails to evaluate the Project's potentially significant air quality impacts.

Response E.11: The project's air quality impacts were evaluated in accordance with the Bay Area Air Quality Management District *California Environmental Quality Act Air Quality Guidelines* (BAAQMD CEQA Guidelines, May 2017). BAAQMD is the agency primarily responsible for assuring federal and state ambient air quality standards are maintained in the San Francisco Bay Area.

The BAAQMD CEQA Guidelines provide separate thresholds for construction and operation and utilize different methods to mitigate these emissions. BAAQMD does not have a threshold for significance or established methodology for evaluating construction emissions with operational emissions. For these reasons, the Draft EIR air quality analysis evaluates construction and operation emission separately.

Comment E.12: 4. Substantial Evidence Shows the Project May Result in Potentially Significant, Unmitigated Impacts on Air Quality

In light of the lack of substantial evidence to support the DEIR conclusion regarding impacts from operation emissions, and to more accurately estimate the actual Project emissions, SWAPE prepared an updated CalEEMod model. SWAPE's updated CalEEMod Model includes site-specific information and correct input parameters and takes into account the overlap in the Project's operations and construction. SWAPE's revised analysis using Project-specific data shows that the Project's operational ROG and NO_x emissions increase significantly when compared to the DEIR's CalEEMod model emission estimates for full Project build out. Furthermore, SWAPE found that ROG and NO_x emissions exceed ROG and NO_x significance thresholds established by the BAAQMD. SWAPE concludes that an updated DEIR should be prepared that includes an updated air pollution model to adequately estimate the Project's emissions, and additional mitigation measures should be identified and incorporated to reduce these emissions to a less-than-significant level. Feasible mitigation measure are discussed below.

Consequently, substantial evidence shows that the Project will result in potentially significant, unanalyzed and unmitigated air quality impacts.

Response E.12: Refer to Response E.11.

Comment E.13: C. The DEIR Failed to Adequately Disclose, Analyze and Mitigate the Project's Significant Cancer Risk from Construction and Operational Emissions

1. The City Lacks Substantial Evidence to Support Its Conclusion that the Project Would Result in Less Than Significant Public Health Impacts

The DEIR fails to include a health risk analysis ("HRA") to disclose the adverse health impacts that will be caused by exposure to toxic air contaminants ("TACs") from the Project's construction and operational emissions. As a result, the DEIR fails to disclose the Project's potentially significant cancer risk posed to nearby residents and children from TACs, and fails to mitigate it. Because the DEIR fails to support its conclusion that the Project will not have significant health impacts from diesel particulate matter ("DPM") emissions with the necessary analysis, this finding is not supported by substantial evidence.

Response E.13: A discussion of the health risk associated with project construction and operation emissions is provided in Section 3.3.2.4 of the Draft EIR. The discussion is based on the technical analysis included in Appendix B of the Draft EIR. The analysis in Section 3.3.2.4 (and Appendix B) of the Draft EIR found project emissions would not result in significant health risks to off-site receptors. As discussed in Section 3.3.2.4, the implementation of mitigation measures MM AIR-1.1 and MM AIR-1.2 and identified conditions of approval (see pages 51 and 52), would reduce health risk to future on-site receptors to below the BAAQMD significance thresholds.

Comment E.14: The DEIR attempts to justify the omission of a construction health risk assessment by stating that "[a] review of the project area did not reveal any sensitive receptors within 1,000 feet of the project site. For this reason, project construction activities would not result in significant health risk impacts to off-site sensitive receptors." With regard to the lack of an HRA for operational emissions, the DEIR similarly argues that "[t]here are no sensitive receptors within 1,000 feet of the project site. For this reason, the project emergency backup generator under either option would not have a significant health risk to off-site sensitive receptors due to generator testing."

As SWAPE explains, the 1,000 radius is not the only factor an agency should use in deciding whether to perform an HRA, and the DEIR justifications are incorrect for several reasons.

First, while BAAQMD guidelines recommend performing an HRA for receptors within 1,000 feet of the project, "the BAAQMD has also established the Community Air Risk Evaluation (CARE) Program, which identifies communities that experience higher levels of air pollution than others. According to BAAQMD guidelines, "the goal of the Community Risk Reduction Plan is to encourage local jurisdictions to take a proactive approach to reduce the overall exposure to TAC and PM2.5 emissions and concentrations from new and existing sources." The Project will be located in one of these communities and, according to the DEIR itself, emissions generated during Project activities has the potential to affect sensitive receptors near the Project site."

Moreover, SWAPE explains, "according to the BAAQMD's 'CEQA Air Quality Guidelines,' the recommended 1,000-foot radius can be enlarged on a case-by-case basis. Since the nearest sensitive receptor is located only 347 meters away from the Project site, and because the Project is located within a CARE community, this receptor will be impacted by the emissions generated by the Project over the 6 to 8 year construction period and throughout operation." Since there are sensitive receptors located in close proximity to the Project site that will be impacted, the City must evaluate the proposed Project's health risk impact to those sensitive receptors.

Second, SWAPE explains that according to BAAQMD, "the thresholds for local risks and hazards from TAC and PM2.5 are intended to apply to all sources of emissions, including both permitted stationary sources and on- and off-road mobile sources, such as sources related to construction, busy roadways, or freight movements." Therefore, an individual project would be considered significant if the total project's TAC emissions, including exhaust from construction equipment, heavy duty diesel trucks, and diesel-powered generators, would result in an increased cancer risk greater than 10 in one million, or would result in an increased ambient air PM2.5 concentration greater than 0.3 µg/m3. However, because the DEIR failed to evaluate whether or not these emission sources would result in such increases, the public and decisionmakers have no way of knowing the magnitude of the Project's impact on the health of nearby residents. Furthermore, BAAQMD's CEQA guidance states that "carcinogens are assumed to have no safe threshold below which health impacts would not occur." Thus, the City must conduct a proper analysis in order to disclose the full extent of the potential impacts that the Project would have on the surrounding community.

Finally, SWAPE explains that failing to conduct a proper HRA conflicts with the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations and guidance on how to conduct health risk assessments in California. OEHHA recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors, and that exposure from projects lasting more than 6 months should be evaluated for the duration of the project.

Therefore, per OEHHA guidelines, health risk impacts from Project construction and operation should have been evaluated by the DEIR. These recommendations reflect the most recent HRA policy, and as such, an assessment of health risks to nearby sensitive receptors from construction and operation should be included in a revised CEQA evaluation for the Project.

In sum, the City lacks substantial evidence to support its conclusion that the Project would result in less than significant public health impacts.

> **Response E.14:** Refer to Response E.13 above. A discussion of the health risk associated with project construction and operation emissions to receptors located on- and off-site is provided in Section 3.3.2.4 of the Draft EIR. The discussion is based on the technical analysis included in Appendix B of the Draft EIR.
>
> In general, health risk from Toxic Air Contaminants (TACs) is greatest in proximity to the TAC sources. As the distance between the receptor and the TAC source increase, the risk decreases. For example, BAAQMD's *Distance Adjustment Multiplier Tool* for Diesel Internal Combustion (IC) Engines, which is a screening tool to predict cancer risk and $PM_{2.5}$ levels based on distance from diesel engines,

indicates that cancer risk is 0.04 times the level near source level at 1,000 feet. This is the reason the Draft EIR analysis limits the analysis, following BAAQMD guidance, to evaluate only receptors within 1,000 feet. Also, refer to Response E.15 below.

As discussed in Section 3.3.2.4 of the Draft EIR and Response E.13 above, the project shall implement mitigation measures and conditions of approval to reduce health risk to future on-site sensitive receptors to below the BAAQMD thresholds of significance. In addition, the proposed backup generator requires a permit from BAAQMD that would limit health risks to less than significant levels. As stated on page 49 of the Draft EIR in Section 3.3.2.4: "As part of the BAAQMD permit requirements, an assessment that shows less than significant health risks from DPM exposure would be required. The risk assessment, prepared by BAAQMD, would have to show that cancer risks are less than 10 per million and that the project includes Best Available Toxics Control Technology, which would set limits for DPM emissions. Sources of air pollutant emissions complying with all applicable BAAQMD regulations generally are not be considered to have a significant air quality community risk impact."

Given that the identified mitigation measures and conditions of approval would reduce the health risk to on-site sensitive receptors from project construction and operation emissions to below the BAAQMD thresholds of significance, the health risk to off-site receptors (which are located further away from the project sources of TACs than the future on-site sensitive receptors) would also be reduced to below the BAAQMD thresholds of significance. Text to the EIR has been added to clarify and add to the discussion that health risk impacts to off-site sensitive receptors would be less than significant. Refer to Section 5.0 of the Final EIR.

Comment E.15: 2. The Project Will Result in a Significant, Undisclosed and Unmitigated Lifetime Cancer Risk from Exposure to Contaminants Generated by Project Construction and Operation

In order to demonstrate the potential risk posed by the Project's construction and operation to nearby sensitive receptors, SWAPE performed a screening level health risk assessment of the Project's DPM emissions using the AERSCREEN model. AERSCREEN is recommended by OEHHA and the California Air Pollution Control Officers Associated (CAPCOA) guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). SWAPE evaluated the Project's construction and operational impacts to sensitive receptors using the annual PM_{10} exhaust estimates from the DEIR's CalEEMod models and the SWAPE's CalEEMod model for full Project operation.

SWAPE found the closest sensitive receptor is approximately 347 meters away from the Project site. SWAPE relied on information in the DEIR that construction of the Project would occur over five phases over the course of 6 to 8 years, and each phase of the project will become operational once constructed and therefore construction and operation of the Project will overlap. Consistent with recommendations set forth by OEHHA, SWAPE used a residential exposure duration of 30 years,

starting from the infantile stage of life. SWAPE's model and exposure assumptions are detailed in their letter.

SWAPE's analysis found that unmitigated DPM emissions released during Project construction and operation would result in an excess cancer risk beyond BAAQMD's significance threshold. The excess cancer risk to adults, children, and infants at the MEIR located approximately 350 meters away, over the course of Project construction and operation are approximately 8, 50, and 49 in one million, respectively. Furthermore, the excess cancer risk over the course of a residential lifetime (30 years) at the MEIR is approximately 107 in one million. This risk is above the BAAQMD significance threshold for cancer of ten in one million, and is therefore a significant impact requiring mitigation. As noted by SWAPE, a screening-level HRA is known to be more conservative, and is aimed at health protection, but its purpose is to determine if a more refined HRA needs to be conducted. Here, a more refined HRA should be prepared by the City to properly analyze the Project's significant impacts.

Therefore, the DEIR fails to analyze the Project's significant, unmitigated impact the public health from exposure to contaminants generated by the Project.

Response E.15: The SWAPE analysis is misleading because it conducts only a screening assessment using overly conservative methods, most notably the use of a screening level dispersion model and traffic emissions from operation that SWAPE considers as diesel particulate matter. Although the assessment contained in the Draft EIR adequately addresses this issue, because sensitive receptors are beyond the 1,000-foot influence area of the project for these types of impacts, the screening analysis presented by SWAPE was reviewed. The claim in the comment letter and accompanying analysis are flawed for several reasons:

1. The 1,000-foot influence area can in fact be used as a screening buffer distance, where it can be concluded that significant impacts from a single project do not extend beyond that distance (i.e., 1,000 feet) from a source. Nevertheless, the City completed a health risk assessment for the nearest sensitive receptor 347 meters (or approximately 1,139 feet) from the site. The results of the assessment indicate that the maximum excess cancer risk would be 0.7 in one million; maximum modeled annual $PM_{2.5}$ concentration would be 0.005 $\mu g/m^3$; and the maximum computed Health Index based on DPM concentration would be 0.001, which are all below the BAAQMD significance thresholds of 10 in one million, 0.3 $\mu g/m^3$, and 1.0, respectively. Text has been added to the Draft EIR to include the results of this assessment (refer to Section 5.0).
2. The commenter used a screening model (i.e., AERSCREEN) that normally overpredicts impacts from sources such that results are likely overestimated. This is because the screening model uses a simplified set of assumptions to describe dispersion of plumes (emissions) from sources that do not take into account any local effects such as meteorology and terrain. The simplified assumptions of the AERSCREEN model are intended to provide an overestimate of the impacts. If AERSCREEN indicates significant impacts, then a refined modeling assessment is the next level of analysis for this type

of project is use of U.S. EPA's AERMOD model that uses a more complex modeling inputs. These include meteorological data representative of the area and local terrain data. This type of analysis was conducted to evaluate the effect on sensitive receptors close to the source of construction and develop a strategy to control emissions for those nearby sensitive receptors that would provide similar reductions at locations further away. The analysis that the commenter is relying upon made no such attempt to more accurately assess this impact and, rather, relied on the screening model results to describe these impacts.

3. The analysis the commenter relied upon assumes all of the operational emissions are generated from the project site. However, most emissions are from mobile sources (i.e., project generated traffic) that occurs away from the site (e.g., travel to and from the site). In addition, the analysis considered these exhaust particulate matter emissions from operation as diesel particulate matter, a TAC with a high cancer risk potency.

According to the U.S. EPA (40 CFR Part 51, Appendix W – Guidelines on Air Quality Models), there are generally two levels of sophistication of air quality models. The first level consists of screening models that provide conservative modeled estimates of the air quality impact of a specific source or source category based on simplified assumptions of the model inputs (e.g., preset, worst-case meteorological conditions). If a screening model indicates that the increase in concentration attributable to the source could cause or exacerbate air quality conditions, then the second level of more sophisticated models should be applied unless appropriate controls or operational restrictions are implemented based on the screening modeling. AERSCREEN is a first-level screening model that is designed to provide a conservative (i.e., overestimate) of air pollutant impacts. The second level, more sophisticated modeling was completed for the Draft EIR. Refer to Responses E.13 and E.14 above.

Comment E.16: C. The DEIR Must Require Feasible and Available Mitigation Measures to Reduce Construction Emissions

SWAPE's analysis demonstrates that the Project's construction-related DPM emissions may present a potentially significant impact. Therefore, additional mitigation measures must be identified and incorporated in a revised DEIR to reduce these emissions to a less than significant level.

SWAPE proposes that the Project employ additional measures which are found in CAPCOA's "*Quantifying Greenhouse Gas Mitigation Measures*" and can be used to reduce both GHG levels and criteria air pollutants, such as particulate matter. In addition, SWAPE proposes various mitigation measures recommended by The Northeast Diesel Collaborative ("NEDC") to reduce diesel emissions and protect public health. These measures include implementation of diesel control measures; repowering or replacing older construction equipment engines; installing retrofit devices on existing construction equipment and implementing a construction vehicle inventory tracking system.

In addition to these measures, SWAPE recommends that the Applicant implement mitigation measures called "Enhanced Exhaust Control Practices" that are recommended by the Sacramento

Metropolitan Air Quality Management District (SMAQMD) and include a detailed plan, submitted by the applicant, to reduce exhaust emissions from the Project's construction. SWAPE also proposes additional mitigation measures aimed at reducing operational ROG (also known as VOC) emissions. Such additional mitigation measures include use of zero-VOC emissions paint, using materials that do not require painting and use of spray equipment with greater transfer efficiencies.

As SWAPE explains, "[t]hese measures offer a cost-effective, feasible way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently reduces NO_x and DPM emissions released during Project construction. An updated DEIR must be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions." Furthermore, the DEIR must require these measures as mitigation in the DEIR in order to ensure that the Project's construction-related emissions are reduced to the maximum extent possible.

> **Response E.16:** As discussed in Sections 3.3.2.2 and 3.3.2.4 of the Draft EIR and Responses E.9, E.11, E.13, E.14, and E.15 above, the project would not result in significant construction-related air quality impacts (including health risk impacts). For this reason, no additional mitigation measures beyond the mitigation measures and conditions of approval identified in the Draft EIR are required.

Comment E.17: D. The DEIR Lacks Substantial Evidence to Support A Finding Of Overriding Considerations for Significant and Unavoidable Greenhouse Gas Impacts

The DEIR fails to adopt all feasible mitigation measures to reduce the Project's significant greenhouse gas ("GHG") impacts to less than significant levels before declaring the impacts "significant and unavoidable." This violates CEQA's requirement that the City mitigate all significant environmental impacts to the greatest extent feasible.

Before it can approve the Project, the City must certify the Project's Final EIR and make mandatory CEQA findings. Those findings must include (1) that the Final EIR complies with CEQA, (2) that the City has mitigated all significant environmental impacts to the greatest extent feasible, and (3) that any remaining significant environmental impacts are acceptable due to overriding considerations. Where, as here, the Project will have a significant effect on the environment, the City may not approve the Project unless it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."

The DEIR's GHG analysis determines that the Project's GHG emissions would exceed the thresholds set forth by the BAAQMD and proposes several mitigation measures to reduce the Project's GHG emissions. Even after implementation of mitigation, the DEIR concludes that Option 1 of the Project would result in a significant and unavoidable impact with respect to GHG emissions.

However, SWAPE reviewed the Project's proposed GHG mitigation measures, and concluded that the DEIR fails to require all feasible mitigation available to reduce the Project's GHG impacts. SWAPE stated that, in their expert opinion, additional, feasible mitigation is available to further reduce the Project's GHG emissions, including, *inter alia*, the following:

- Incorporate Bike Lane Street Design (On-Site)
- Limit Parking Supply
- Implement Commute Trip Reduction Program- Voluntary or Required
- Provide Ride-Sharing Programs
- Implement Subsidized or Discounted Transit Program
- Implement Preferential Parking Permit Program
- Price Workplace Parking
- Implement Employee Parking "Cash-Out"
- Use passive solar design, such as:
    - Orient buildings and incorporate landscaping to maximize passive solar, heating during cool seasons, and minimize solar heat gain during hot seasons.
- Reduce unnecessary outdoor lighting by utilizing design features such as limiting the hours of operation of outdoor lighting.
- Develop and follow a "green streets guide" that requires:
    - Use of minimal amounts of concrete and asphalt;
    - Use of groundcovers rather than pavement to reduce heat reflection.
- Implement Project design features such as:
    - Shade HVAC equipment from direct sunlight;
    - Install high-albedo white thermoplastic polyolefin roof membrane; o Install high-efficiency HVAC with hot-gas reheat;
    - Install formaldehyde-free insulation; and
    - Use recycled-content gypsum board.
- Provide education on energy efficiency to residents, customers, and/or tenants. Provide information on energy management services for large energy users.
- Meet "reach" goals for building energy efficiency and renewable energy use.
- Require all buildings to become "LEED" certified.
- Limit the use of outdoor lighting to only that needed for safety and security purposes.
- Require use of electric or alternatively fueled sweepers with HEPA filters.
- Include energy storage where appropriate to optimize renewable energy generation systems and avoid peak energy use.
- Plant low-VOC emitting shade trees, e.g., in parking lots to reduce evaporative emissions from parked vehicles.
- Install an infiltration basin to provide an opportunity for 100% of the storm water to infiltrate on-site.

The DEIR must be revised to consider these GHG mitigation measures and incorporate all feasible measures identified by SWAPE as binding mitigation for the Project. Only if the Project's GHG impacts remain significant after requiring all such feasible mitigation can the City consider declaring the Project's GHG impacts to be significant and unavoidable.

Response E.17: The above comment about the Final EIR certification process and CEQA findings is incorrect. Pursuant to CEQA Guidelines Section 15090(a), prior to approving the project, the City shall certify that:

(1) The final EIR has been completed in compliance with CEQA;
(2) The final EIR was present to the decision-making body of the lead agency, and that the decision-making body reviewed and considered the information contained in the final EIR prior to approving the project; and
(3) The final EIR reflects the lead agency's independent judgment and analysis.

Pursuant to CEQA Guidelines Section 15091(a):

> No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:
>
> (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
> (2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
> (3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

As discussed in Section 3.8, project Option 1 would result in significant greenhouse gas (GHG) emissions. Most (about 60 percent) of the GHG emissions from Option 1 are from vehicle trips travelling to and from the project site. The project shall develop and implement a Vehicle Miles Travelled (VMT) Reduction Plan that shall achieve a 20 percent reduction in project VMT, half of which (a 10 percent reduction) shall be achieved with Transportation Demand Management (TDM) measures, as described in Sections 2.2.1.4, 3.3, and 3.8 of the Draft EIR).

The above comment suggests additional measures to reduce the GHG emissions from Option 1. The first eight suggested measures could reduce project VMT, and therefore, reduce GHG emissions. Text has been added to Section 2.2.1.4 of the EIR to clarify that the proposed VMT Reduction Plan could include the eight suggested measures to reduce project VMT. See also Comment and Response C.17.

The other suggested measures in the above comment to reduce GHG emissions pertain to the design and operation of the buildings and site. As described in Section 2.2.1.4:

The project proposes to achieve a minimum of 80 points (or silver certification) on the GreenPoint Rated New Home Multi-family certification system by incorporating green building measures. Project green building measures could include permeable pavement, filtration and/or bio-retention features, water-efficient landscaping, minimal turf, shade trees, recycled water irrigation system, community gardens, outdoor electrical outlets for gardening equipment, Electric Vehicle (EV) fixtures and wiring for additional EV stalls in all parking garages, water-efficient fixtures, and energy-efficient lighting and appliances.

Text has been added to in Section 2.2.1.4 of the Draft EIR to clarify that the project proposes to reduce unnecessary outdoor lighting, provide education on energy efficiency to residents, customers, and/or tenants, provide information on energy management services for large energy users, meet "reach" goals for building energy efficiency and renewable energy use, and achieve LEED certification for the proposed hotel building. Refer to Section 5.0.

In addition, text has been added to the EIR to identify the implementation of a GHG Reduction Plan by the project to reduce the GHG emissions from Option 1 to a less than significant level. Refer to Section 5.0.

Comment E.18: IV. THE DEIR FAILS TO ADEQUATELY DISCLOSE, ANALYZE, AND MITIGATE SIGNIFICANT TRANSPORTATION AND TRAFFIC IMPACTS

CEQA requires the City to analyze the Project's direct, indirect and cumulative impacts from traffic generated by the Project. The DEIR analysis of transportation impacts is inadequate for several reasons. First, the DEIR fails to assess the Project's transportation impacts compared to the actual environmental setting, as required by CEQA. Second, the DEIR greatly underestimates the Project's actual transportation impacts by improperly taking credit for prior uses that ceased a long time ago. Finally, the DEIR fails to properly discuss and mitigate the Project's impact on public transit, as required by CEQA.

Response E.18: The above comments are addressed in detail in Responses E.19 through E.26 below.

Comment E.19: A. The DEIR Fails to Adequately Establish the Existing Setting for Transportation Impacts

Response E.19: The existing environmental setting is the starting point from which the lead agency must measure whether a proposed project may cause a significant environmental impact. CEQA defines the environmental setting as the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, from both a local and regional perspective.

Describing the environmental setting accurately and completely for each environmental condition in the vicinity of the project is critical to an accurate, meaningful evaluation of environmental impacts. The courts have clearly stated that, "[b]efore the impacts of a project can be assessed and mitigation measures considered, an [environmental review document] must describe the existing environment. It is only against this baseline that any significant environmental effects can be determined."

CEQA Guidelines Section 15125(a) states: "An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will *normally constitute the baseline physical conditions* (emphasis added) by which a lead agency determines whether an impact is significant."

The environmental setting at the time the Notice of Preparation (NOP) is published *normally constitutes* the baseline physical conditions. The City, as the lead agency, has the discretion to select an alternative baseline, as deemed appropriate. The baseline for the transportation analysis is existing conditions, as well as future background conditions and future cumulative conditions (refer to Section 3.17 of the Draft EIR).

Comment E.20: The DEIR fails to properly describe the environmental setting for the site's transportation impacts: the last occupant of the site was BAE systems, which ceased operating on the site in 2016. According to the DEIR, "[t]he former buildings were occupied by BAE systems until as recent as April 2016" and they were "recently demolished in late 2016/early 2017." The NOP for the EIR was published in February 2017, and it states "[t]he project site was previously developed with several industrial/office buildings totaling approximately 272,840 square feet, which were recently demolished." The notice of preparation, therefore, was published when the buildings were already demolished, and the site was vacant.

Despite that, as explained by Mr. Smith in his comments, the DEIR's environmental setting relies on traffic counts that include counts that were performed more than two years before the NOP was published, when the prior use of the site was still active:

"[T]he baseline traffic counts for the "existing traffic condition" are a hodge-podge of counts taken from September, 2014 and dates in 2015 when there was some level of prior use of the Project site and dates in March of 2017 when prior activity on the Project site had clearly been terminated (…) In fact, of the 18 existing intersections for which traffic analysis was performed, in the AM peak hour, 11were counted in 2014 or 2015 when the prior use was contributing to the baseline and the other 7

were counted in March, 2017 when the prior use had clearly terminated. In the PM peak hour, 10 of the intersections were counted when the prior use was contributing traffic to the traffic baseline while 8 intersections were counted after the prior use had clearly terminated."

Using traffic counts from years before the NOP was published is a clear violation of CEQA and prevents the City from determining the Project's *actual* transportation impacts. Therefore, the City must revise the DEIR to properly reflect the environmental setting and adequately analyze the Project's potentially significant impacts.

Response E.20: The traffic counts for the study intersections were taken between 2015 and 2017. The above comments that the NOP was published in February 2017, the previous buildings on-site being occupied until as recent at April 2016, and the buildings on-site being demolished in late 2016/early 2017 are correct.

According to CMP and City of Santa Clara traffic study requirements and standard procedures, traffic counts must be no more than two years old at the time of the NOP. All counts used in the study comply with this requirement. The reason for the two year standard is that it has been found that traffic counts typically do not vary significantly within a two year period. No substantial development or change in the project area has occurred between 2015 and 2017, except for the vacation and demolition of the previous buildings on-site. Traffic counts that included trips from the previous occupant of the project site and used to establish the existing conditions baseline reflect more trips/congestion than at the time the NOP was published when the buildings on-site were vacated and demolished. The existing conditions baseline used in the EIR for transportation, therefore, is conservative.

Comment E.21: B. The DEIR Underestimates the Project's transportation impacts

As described above, the former R&D use on the site ceased about two years ago, and the buildings were demolished by the time the City published the NOP.

Despite that, the DEIR improperly deducts the trips generated by the former use from the proposed Project's traffic, as explained by Mr. Smith:

"[T]he Project's trip generation analysis deducts the full theoretical trip generation of the prior use at full occupancy from the trip generation of the Project as if that use had existed at the time of the NOP and as if it had been measured in all of the baseline counts. The inappropriate trip credit taken for the trips of the prior use can be seen in DEIR Table 3.17-5 and in Appendix G, Table 7."

As a result, the Project's actual impacts are greatly underestimated:

"This results in an 18.37 percent reduction in the net new daily trips, a 37.8 percent reduction in the AM peak trips and a 27.29 percent reduction in the PM trips actually generated by the Project. As a result, the Project's transportation impacts are greatly underestimated."

As noted by Mr. Smith, the fact that, within the Existing + Project analysis, the DEIR does not deduct the trips from the former use "does not compensate for the above-mentioned problem of failing to properly represent the environmental setting."

> **Response E.21:** The project's impacts were analyzed both with and without credit for the existing buildings on the site. As described in Section 3.17.2.3 of the Draft EIR, the project's impact under existing plus project conditions were evaluated relative to existing traffic volumes. The project's estimated trips (without any trip credit from the previous use on-site) were added to the existing traffic volumes to derive the existing plus project traffic volumes. In accordance with CMP and City of Santa Clara traffic study guidelines, in the background plus project scenario credit is given for the existing (or former) uses on the site as long as they were occupied within two years of the NOP. The logic behind this approach is that the existing buildings could be reoccupied or rebuilt without discretionary City approval. The existing buildings are assumed to be rebuilt and reoccupied in the background scenario. Therefore, the traffic generated by the then existing buildings is included in the analysis. In addition to actual existing conditions, the background scenario represents another valid CEQA baseline because the buildings were occupied in the recent past.

Comment E.22: Mr. Smith also explains that the DEIR's short range analysis (Existing + Background Projects + Project) is flawed. In the short range analysis, the DEIR not only improperly uses the credit for the trips from the former use, which is the same flaw discussed above, but also, perhaps in attempting to compensate for this flaw, includes the theoretical trips of the prior use as if the former R&D facility were a concurrent project. As Mr. Smith explains:

"The DEIR's short range analysis (Existing + Background Projects + Project) attempts to compensate for the muddled traffic baseline in a different way. It allows the credit for the trips of the prior use of the Project site to be deducted from the Project's trip generation. But it attempts to compensate and get the end result traffic impacts and mitigation needs right by including the theoretical trips of the prior use as if the former R&D facility were a concurrent project (thereby seeming to offset their inappropriate deduction from the Project's trip generation).

However, this adjustment neither compensates for the strange admixture of existing traffic counts, nor does it properly account for the Project's full increment to, and fair share financial contribution responsibility for, traffic impacts. That is, the analysis improperly reduces the project's relative share by 1) allowing the project to take credit for the R&D trips, which unjustifiably reduces the project's relative share, while 2) at the same time, adding the former R&D facility trips to the existing trips (i.e., "enlarges the pie" of trips), thus further reducing the project's relative share of impacts. The fair share must be based on the Project's contribution of trips without deduction of prior use trips from the Project's trip totals. The analysis must be revised to accurately reflect the Project's fair share of transportation impacts."

The result of the DEIR analysis taking improper credit for trips from the prior use, which did not exist at the time the NOP was prepared, and of using the prior use trips as if they are a concurrent project, is a gross underestimation of the Project's actual transportation impacts. Therefore, the

DEIR lacks substantial evidence to support its conclusions. The City must prepare a revised DEIR that reflect the Project's actual impact.

Response E.22: Refer to Response E.21.

Comment E.23: C. The DEIR Fails to Properly Analyze the Project's Significant Impacts on Public Transit

The DEIR states that a transportation/traffic impact is considered significant if the project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance or safety of such facilities.

With regard to impacts on transit facilities, the DEIR states that the Project site is served directly by two bus lines -VTA Bus Lines 10 and 304, and then summarily discusses and dismisses the impact on public transit:

"An evaluation of the effects of project traffic on transit vehicle delay was completed. The analysis shows that for most transit routes evaluated, the traffic associated with the proposed project would increase delay to transit service by three minutes or less. Neither the City nor VTA has established policies or significance criteria related to transit vehicle delay. Thus, this data is provided for informational purposes. Based on the discussion above, the project would not significantly impact the effectiveness of transit facilities. **(Less than Significant lmpact)**"

The City's conclusion that impacts on transit would be less than significant is not supported by substantial evidence, as required by CEQA. First, the Project's impacts on transit may be even more severe when combined with other projects' impacts on transit. Despite this cumulative impact on transit, Mr. Smith explains that the DEIR fails to discuss any cumulative impact on transit:

"The concurrent background projects identified in the transportation analysis comprise a list of 105 individual projects that easily involve, in aggregate, 10 or more times the trip generation of the subject Project. If each group of projects that had a trip generation equivalent to the subject Project were to create a three-minute delay for VTA lines, the transit system in the area would become completely bogged down and dysfunctional."

Second, the DEIR cannot claim BOTH that there are no policies or significance criteria related to transit vehicle delay AND that the Project would not result in a significant impact the effectiveness of transit.

Response E.23: The transit analysis was completed in accordance with the methodology documented in Section 9.2 of the VTA *Transportation Impact Analysis Guidelines* dated October 2014. The methodology requires the analysis of project effects on transit vehicle delay and not the cumulative effect of other projects affecting transit. In addition, there is no significance criteria related to transit delay cited in the guidelines and thus, the transit analysis was included for informational purposes in the CEQA document.

Nevertheless, transit vehicle delay is the same as delay for all vehicles since buses use the same roads and intersections. The Draft EIR identifies impacts to a number of intersections based on increased delay, which would also affect buses. The Draft EIR includes mitigation measures to return the delay conditions to the same as would occur without the project. Therefore, the increase in transit travel times would be similarly offset.

Comment E.24: Third, the DEIR's statement that neither the City nor VTA has established policies or significance criteria related to transit vehicle delay does not mean that there are no significance thresholds upon which to make a determination regarding transit impacts. CEQA explains that when there is no adopted threshold of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts. Here, as explained by Mr. Smith, there are applicable thresholds the City can use to determine potentially significant transit impacts:

"Performance measures are used by different California Metropolitan Planning Organizations to evaluate the performance of public transit. Such measures are used to evaluate mobility - the degree of ease of travel between origins and destinations. Such thresholds may be qualitative or quantitative, such as average speed, relative delay time or travel time. (see Mineta Transportation Institute, "Transit Performance Measures in California", April 2016).

Response E.24: Refer to Response E.23. In addition, page 175 Section 3.17.2.1 of the Draft EIR provides the significance threshold that was used to analyze transit, bicycle, and pedestrian facility impacts.

Comment E.25: Moreover, the City's General Plan policy for the Santa Clara Station Focus Area specifically calls for the City to "Prioritize vehicular and transit transportation modes on roadways, such as Coleman Avenue and De La Cruz Boulevard, that provide access to the Station (...)". Line no. 10, which the DEIR mentions as serving the Project (and potentially impacted by it) is exactly this type of "vehicular transit" the General Plan calls for prioritizing. By failing to establish a threshold for transit impacts or relying on a qualitative threshold readily available for the State's transit planning organizations, the City violate its duty under CEQA to evaluate the Project's potentially significant transit impacts. The Project also contradicts its own General Plan.

Response E.25: Refer to Response E.24.

Comment E.26: In addition, the DEIR completely fails to disclose the Project's impact on rail transit. As explained by Mr. Smith:

"The DEIR assumes a 9 percent reduction in the motor vehicle trip generation of the Project's housing component based on its proximity to the Santa Clara Caltrain Station and the VTA transit lines that service it. However, the DEIR fails to analyze what impact adding those trips, which amount to 74 trips in the AM peak hour and 89 trips in the PM peak hour over and above the transit trips that would normally take place from a housing project located beyond a half-mile from a rail station, would have with regard to overcrowding on Caltrain and the VTA lines at that location."

In sum, the DEIR lacks substantial evidence to support its conclusion that the Project would result in less than significant impacts on bus transit and fails entirely to evaluate the Project's potentially significant impacts on rail transit. The City must revise its analysis to comply with CEQA and recirculate a revised DEIR for public review

Response E.26: This comment correctly states the estimated transit ridership generated by the project of 74 AM peak-hour trips and 89 PM peak-hour trips. There are six bus routes and three rail lines that are within walking distance of the site. The bus lines combined provide 44 buses during the peak hours. Caltrain provides six trains during the peak hours. Thus, the project would generate an estimated average transit ridership of fewer than two riders per bus/train. All of the bus lines have excess capacity. Some of the Caltrain trains are known to be very crowded. However, Caltrain plans to increase service to the Santa Clara station with the Caltrain Electrification Project. This project would increase train service to six trains/hour/direction with estimated passenger service to begin in 2022. Overall, it can be concluded that the project's estimated transit demand can be accommodated by the existing and planned services.

Comment E.27: V. CONCLUSION

The DEIR is inadequate as an environmental document because it fails to properly disclose, analyze and mitigate the Project's significant impacts on air quality, public health, GHGs, transportation and traffic. The Project also fails to comply with the City's General Plan affordable housing policies. Therefore, the City cannot approve the Project until it requires affordable housing and prepares a revised DEIR that resolves these issues and complies with CEQA's requirements.

Response E.27: The City of Santa Clara prepared the Draft EIR for the project in compliance with the requirements of CEQA and the CEQA Guidelines. Refer to Response E.1 through E.26 above.

The following are comments contained in Exhibit A of Comment Letter E. Refer to Appendix A for a complete copy of Exhibit A, including footnotes and attachments.

Comment E.28: We have reviewed the April 2018 Draft Environmental Impact Report (DEIR) and associated appendices for the Gateway Crossings Project ("Project") located in the Cities of Santa Clara and San Jose. The proposed Project seeks a General Plan Amendment in order to allow a Very High Density Residential land use and to add a new zoning designation of Very High Density Mixed Use on the Santa Clara portion of the Project site. The proposed Project will develop one of two Project options over five phases of construction. Option 1 of the proposed Project plans to develop 1,400 residential units and 215,000 square feet of commercial space. Option 2 is the preferred Project alternative, which will construct up to 1,600 residential units and 215,000 square feet of commercial use. The commercial space will include 15,000 square feet of retail space and a 250-room hotel with a 10,000 square foot restaurant and 5,000 square feet of meeting space over the 24-acre lot.

Our review concludes that DEIR fails to adequately evaluate the Project's Air Quality and Greenhouse Gas (GHG) impacts. As a result, emissions and health impacts associated with the

construction and operation of the proposed Project are underestimated and inadequately addressed. Our analysis, as described herein, demonstrates that there are potentially significant impacts that were not disclosed, and new mitigation measures that were not considered in the DEIR that could reduce the Project's impacts to a less than significant level. An updated DEIR should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the Project may have on the surrounding environment.

Response E.28: Refer to Responses E.29 through E.39.

Comment E.29: Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR for the Project relies on emissions calculated from the California Emissions Estimator Model Version CalEEMod.2016.3.1 ("CalEEMod"). CalEEMod provides recommended default values based on site specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but CEQA requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's criteria air pollutant and GHG emissions and make known which default values were changed as well as provide a justification for the values selected.

When reviewing the Project's CalEEMod output files, located in Appendix B, Air Quality Assessment, we found that several of the values inputted into the model are not consistent with information disclosed in the DEIR and are not consistent with guidance set forth by the Bay Area Air Quality Management (BAAQMD) for mixed-use projects. As a result, emissions associated with the Project are greatly underestimated. A revised DEIR should be prepared that adequately assesses the potential impacts that construction and operation of the Project may have on regional and local air quality and global climate change.

Failure to Include All Land Uses and Use of Underestimated Land Use Sizes

Review of the DEIR's CalEEMod output files for Option 2 demonstrates that incorrect land use sizes were used to estimate emissions. As a result, the construction and operational emissions are underestimated.

Under Option 2, the DEIR proposes to construct "up to 1,600 dwelling units and up to 215,00 square feet of commercial uses", which includes a hotel that "would include up to 250 rooms, an up to 10,000 square foot restaurant, and up to 5,000 square feet of conference/meeting space for a total gross floor area of up to 200,000 square feet" (p. 8,11). However, review of the Phase 5 construction CalEEMod output files demonstrates that the Project Applicant modeled emissions assuming only 225 hotel rooms would be constructed and completely omitted the proposed restaurant land use (see excerpt below) (Appendix B, pp. 120).

Gateway Crossings, Phase 5,Mitigated Criteria Emissions
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	339.00	Space	0.00	142,500.00	0
Hotel	225.00	Room	21.40	182,000.00	0
Strip Mall	5.20	1000sqft	0.00	5,200.00	0

As you can see in the excerpt above, the Project Applicant models 25 fewer hotel rooms than what was proposed in the DEIR and completely omits the proposed restaurant land use. Furthermore, review of the Phase 1, Phase 2, Phase 3, and Phase 4 CalEEMod output files for construction demonstrates that the Project Applicant modeled emissions assuming a total of 1,581 residential units will be constructed (see excerpts below) (Appendix B, pp. 39, pp. 59, pp. 79, and pp. 99).

Gateway Crossings, Phase 1 , Mitigated Criteria Emissions
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	485.00	Space	0.00	256,900.00	0
Parking Lot	4.00	Space	0.04	1,600.00	0
Apartments Mid Rise	261.00	Dwelling Unit	21.36	324,000.00	746
Strip Mall	5.30	1000sqft	0.00	5,300.00	0

Gateway Crossings Phase 2, Criteria and Operational
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	625.00	Space	0.00	256,900.00	0
Parking Lot	7.00	Space	0.06	2,800.00	0
Apartments Mid Rise	332.00	Dwelling Unit	21.34	414,000.00	950

Phase 3, Mitigated Criteria Emissions
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	760.00	Space	0.00	311,800.00	0
Parking Lot	6.00	Space	0.05	2,400.00	0
Apartments Mid Rise	432.00	Dwelling Unit	21.35	522,000.00	1236
Strip Mall	4.90	1000sqft	0.00	4,900.00	0

Gateway Crossings, Phase 4 Criteria and Operational Emissions
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	905.00	Space	0.00	362,000.00	0
Parking Lot	4.00	Space	0.04	1,600.00	0
Apartments Mid Rise	556.00	Dwelling Unit	21.36	556,885.00	1590

As you can see in the excerpts above, Phase 1 through Phase 4 estimate emissions assuming only 1,581 residential units would be constructed. Finally, review of the operational CalEEMod output files for all five phases demonstrates that while the hotel and apartment land use sizes were inputted correctly, the Project Applicant still failed to include the restaurant land use (see excerpt below) (Appendix B, pp. 190)

Coleman Browkaw Gateway Crossings Full Build Out
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	3,114.00	Space	0.00	1,245,600.00	0
Parking Lot	21.00	Space	0.00	8,400.00	0
Hotel	250.00	Room	0.00	363,000.00	0
Apartments Mid Rise	1,600.00	Dwelling Unit	24.00	1,600,000.00	4576
Strip Mall	15.00	1000sqft	0.00	15,000.00	0

As you can see in the excerpt above, the 10,000 square foot restaurant was completely omitted from the model. According to the CalEEMod User's Guide, the correct land use type and size is necessary in order to correctly calculate impacts from architectural coatings and energy use. As a result, the construction and operational emissions associated with the Project are incorrect and should not be relied upon to estimate emissions.

Response E.29: Refer to Response E.9.

Comment E.30: Use of Incorrect Trip Purpose Percentage

Review of the Project's operational CalEEMod output files demonstrates that the model double counts the number of pass-by trips expected to occur throughout Project operation. As a result, the Project's operational emissions are underestimated.

CalEEMod separates the operational trip purposes into three categories: primary, diverted, and pass-by trips. According to Appendix A of the CalEEMod User's Guide, the primary trips utilize the complete trip lengths associated with each trip type category. Diverted trips are assumed to take a slightly different pass than a primary trip and are assumed to be 25% of the primary trip lengths. Pass-by trips are assumed to be 0.1 miles in length and are a result of no diversion from the primary route.5 Review of the Project's CalEEMod output files demonstrates that the trip purpose percentage

was divided amongst primary, diverted, and pass-by trip types for the Project's proposed retail land uses (Appendix B, pp.146, pp. 157, pp. 170, pp. 182, and 194).

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
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

However, as demonstrated by the Traffic Impact Analysis (TIA) prepared for the Project, pass-by trips for the retail land use were already accounted for in the TIA's Traffic Generation calculation (see excerpt below) (Table 7, Appendix G, pp. 49).

Table 7
Trip Generation Estimates

			Daily		AM Peak Hour						PM Peak Hour					
	ITE Land				Pk-Hr	Split		Trip			Pk-Hr	Split		Trip		
Land Use	Use	Size	Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Proposed Land Use																
Residential	*220 - Apartment*	1,600 dwelling units	6.65	10,640	0.51	20%	80%	163	653	816	0.62	65%	35%	645	347	992
15% housing and retail mixed-use reduction[1]				-96				-1	-1	-2				-4	-4	-8
9% housing near Caltrain station[4]				-949				-15	-59	-74				-58	-31	-89
Hotel	*310 - Hotel*	250 rooms	8.17	2,043	0.53	59%	41%	78	55	133	0.60	51%	49%	77	73	150
10% hotel and retail mixed-use reduction[2]				-64				-1	-1	-2				-3	-3	-6
Retail	*820 - Shopping Center*	15,000 square feet	42.70	641	0.96	62%	38%	9	5	14	3.71	48%	52%	27	29	56
15% housing and retail mixed-use reduction[1]				-96				-1	-1	-2				-4	-4	-8
10% hotel and retail mixed-use reduction[2]				-64				-1	-1	-2				-3	-3	-6
25% pass-by reduction[3]				-11				0	0	0				-5	-6	-11
Project Trips After Reductions				**12,044**				**231**	**650**	**881**				**672**	**398**	**1,070**
Former Land Use																
R&D	*760 - Research & Development*	272,840 square feet	8.11	2,213	1.22	83%	17%	276	57	333	1.07	15%	85%	44	248	292
Net Project Trips (Proposed - Former Land Uses)				*9,831*				*-45*	*593*	*548*				*628*	*150*	*778*

Notes:
Source: ITE Trip Generation, 9th Edition, 2012.
[1]As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for a mixed-use development project with housing and retail components is equal to 15% off the smaller trip generator (retail component generates less trips than the housing component).
[2]As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for a mixed-use development project with hotel and retail components is equal to 10% off the smaller trip generator (retail component generates less trips than the hotel component).
[3]A 25% PM pass-by reduction is typically applied for retail development within Santa Clara County.
[4]As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for housing located within 2,000-foot walk of a Caltrain station is 9%. (The project will have access to the Santa Clara Transit Center from Brokaw Road via the pedestrian undercrossing currently under construction).

Therefore, the CalEEMod model should have divided the trip purpose between primary and diverted trips for the retail land use, as pass-by trips are already accounted for in the 12,044-daily trip total. By spreading the trip purpose percentages amongst the three categories, the model is accounting for pass- by trips that have already been accounted for in the TIA. Because the proposed Project's CalEEMod model incorrectly allocates the Project's operational trips to the various categories of trip purposes, the emissions associated with these trips are underestimated, and as a result, the Project's operational emissions are underestimated. An updated CalEEMod model must be prepared in an updated DEIR in order to accurately estimate the Project's operational emissions.

Response E.30: Refer to Response E.10.

Comment E.31: Updated Analysis Indicates Significant Criteria Air Pollutant Emissions

In an effort to accurately determine the Project's operational criteria air pollutant emissions, we prepared an updated CalEEMod model for the Project at full Project build out in order to include more site-specific information and corrected input parameters. Additionally, we assessed the impacts that would occur from overlap of Phases 1 through 4 operation and Phase 5 construction. The results of our analysis, discussed in the sections below, indicate that the DEIR failed to accurately model and assess the Project's emissions and, as a result, the Project could result in more significant impacts than what was previously identified in the DEIR.

Updated Operational Emissions Analysis Indicates Significant Impact

In the operational model, we inputted the 10,000 square foot restaurant and changed the pass-by trip rates to zero in for the retail land use and added those trips to the primary trip category. When correct, site-specific input parameters are used to model emissions, we find that the Project's operational ROG and NO_x emissions increase significantly when compared to the DEIR's CalEEMod model emission estimates for full Project build out. Furthermore, we find that ROG and NO_x emissions exceed the 54 pounds per day (lbs/day) thresholds set for by the BAAQMD (see table below).

Average Daily Operational Emissions (lbs/day)

Model	ROG	NOx
DEIR	56	46.4
SWAPE	61.4	56.8
BAAQMD Significance Thresholds (lbs/day)	**54**	**54**
Exceed?	**Yes**	**Yes**

As you can see in the table above, when emissions are modeled correctly, both ROG and NO_x emissions would exceed BAAQMD thresholds. Specifically, our analysis demonstrates that operational activity would emit approximately 61 lbs/day of ROG emissions and approximately 57 lbs/day of NO_x emissions, which is higher than what the DEIR previously estimated. As a result, an updated DEIR should be prepared that includes an updated air pollution model to adequately estimate the Project's emissions, and additional mitigation measures should be identified and incorporated to reduce these emissions to a less-than-significant level.

Response E.31: Refer to Response E.9, E.10, and E.11.

Comment E.32: Failure to Account for Overlap in Construction and Operational Emissions
Not only does the DEIR incorrectly estimate the Project's construction and operational emissions, but it fails to account for the overlap in emissions that would occur once construction of Phases 1 through 4 are complete and operational, and when construction of the next phase begins. According to the DEIR, Project construction is expected to occur in five phases, with each phase expected to be operational once construction is complete. The excerpt below shows the anticipated construction schedule for each phase (Appendix B, p. 10).

- Phase 1 would be built over a period of 12 months beginning in October 2018.
- Phase 2 would be built over a period of 12 months beginning in July 2019.
- Phase 3 would be built over a period of 12 months beginning in April 2020.
- Phase 4 would be built over a period of 14 months beginning in March 2022.
- Phase 5 would be built over a period of 19 months beginning in January 2024.

The excerpt above demonstrates that construction of Phase 1 will begin in October 2018 and would therefore be fully operational in October 2019, once construction is complete (Appendix B, p. 10). Construction of Phase 2 would begin soon after and be completed in July 2020 (Appendix B, p. 10). Therefore, when the next phase is in construction, the previous phase or phases that just finished construction will be in operation. Thus, when construction of Phase 5 begins, the previous four phases will be in operation. Due to these overlaps, the DEIR should have evaluated the Project's air quality impact assuming that construction of Phase 2 through Phase 5 and operation of the previous phase or phases would occur concurrently. Review of the DEIR, however, demonstrates that no such analysis was conducted, leaving a gap in the DEIR's evaluation of the Project's potential impacts.

As is demonstrated in Table 2 and Table 3 of the Air Quality Assessment, the DEIR evaluated the Project's construction and operational emissions separately and did not account for this overlap in activities (see excerpts below) (Appendix B, p. 11, p. 12).

Table 2. Construction Period Emissions by Phase

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Phase 1 (tons)	3.06	7.14	0.31	0.29
Phase 2 (tons)	3.60	6.17	0.27	0.25
Phase 3 (tons)	4.34	5.70	0.24	0.22
Phase 4 (tons)	4.78	6.97	0.27	0.25
Phase 5 (tons)	1.69	6.06	0.24	0.22
Total construction emissions (tons)	17.43 tons	32.0 tons	1.32 tons	1.24 tons
Average daily emissions (pounds)[1]	**24.8 lbs./day**	**45.5 lbs./day**	**1.9 lbs./day**	**1.8 lbs./day**
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	**No**	**No**	**No**	**No**
Notes: [1]Assumes 1,408 workdays.				

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2020 Phase1	1.82 tons	2.23 tons	1.45 tons	0.42 tons
2021 Phase1+Phase2	4.72 tons	4.86 tons	3.16 tons	0.91 tons
2022 Phase1+Phase2+Phase3	7.61 tons	6.87 tons	5.47 tons	1.57 tons
2024 Phase1+Phase2+Phase3+Phase4	10.65 tons	8.67 tons	8.44 tons	2.42 tons
2026 Full Build Out Phase1+Phase2+Phase3+Phase4+Phase5	11.78 tons	10.09 tons	9.92 tons	2.85 tons
Previous Existing Industrial/Office Use	1.56 tons	1.62 tons	1.62 tons	0.46 tons
Net Emissions	**10.22 tons**	**8.47 tons**	**8.30 tons**	**2.39 tons**
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	**Yes**	**No**	**No**	**No**
Net Project Operational Emissions (*pounds/day*)	56.0 lbs	46.4 lbs	45.5 lbs	13.1 lbs
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	**Yes**	**No**	**No**	**No**
[1] Assumes 365-day operation.				

Since the DEIR fails to evaluate the impacts that may result from this overlap in construction and operational activity, the Project's air quality impacts are potentially significantly underestimated and inadequately addressed. In an effort to determine the air quality impacts that the construction of Phase 5 and the operation of Phases 1 through 4 may result in, we conducted a simple analysis that combines the "Phase1+Phase2+Phase3+Phase4 operational emissions" CalEEMod model (Appendix B, pp. 178) with the Phase 5 construction emissions from the DEIR's CalEEMod model (Appendix B, pp. 120).

When the Project's Phase 1 through Phase 4 operational emissions and Phase 5 construction emissions are combined, we find that the Project's emissions would result in a potentially significant air quality impact that was not previously identified in the DEIR (see table below).

January 2024 to July 2025 Average Daily Emissions (lbs/day)				
Activity	**ROG**	**NOx**	**PM10**	**PM2.5**
Existing Emissions	8.5	8.9	8.9	2.5
Construction - Phase 5	5.9	21.3	0.84	0.77
Operation - Phase 1, 2, 3, and 4	58.4	47.5	46.2	13.3
Net Total January 2024 to July 2025 Emissions	**55.8**	**59.9**	**38.14**	**11.57**
BAAQMD Significance Thresholds (lbs/day)	**54**	**54**	**82**	**54**
Exceed?	***Yes***	***Yes***	No	No

Specifically, our analysis demonstrates that from January 2024 to July 2025, the Project's combined ROG emissions would be approximately 56 lbs/day and combined NO_x emissions of approximately 60 lbs/day would exceed the BAAQMD's significance thresholds of 54 lbs/day. These updated emission estimates demonstrate that when the overlap in construction and operational activity from construction of Phase 5 and the operation of Phases 1 through 4 is accounted for, the Project would result in a potentially significant ROG-related air quality impact that was not previously examined or identified in the DEIR. Furthermore, the Project would result in higher average daily NO_x emissions than was identified by the DEIR. As a result, the DEIR should be revised to include an updated model to adequately estimate the Project's emissions.

Response E.32: Refer to Response E.11.

Comment E.33: Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR conducts a health risk assessment (HRA) to evaluate the health risk posed to new on-site sensitive receptors from exposure to toxic air contaminant (TAC) emissions from several sources near the Project site, including the El Camino Real Highway, Caltrain Rail Line, and several stationary sources. However, the DEIR fails to evaluate, whatsoever, the health risk posed to nearby residents as a result of exposure to emissions generated by construction and operation of the proposed Project. The DEIR attempts to justify the omission of a construction health risk by stating that,

> "A review of the project area did not reveal any sensitive receptors within 1,000 feet of the project site. For this reason, project construction activities would not result in significant health risk impacts to off-site sensitive receptors" (p. 49).

Additionally, the DEIR determines that the Project would not expose nearby sensitive receptors to significant TAC emissions, again without conducting a proper HRA (p. 50). The DEIR attempts to justify the omission of an operational HRA by stating,

> "There are no sensitive receptors within 1,000 feet of the project site. For this reason, the project emergency backup generator under either option would not have a significant health risk to off-site sensitive receptors due to generator testing" (p. 50).

However, this justification for failing to evaluate the health risk posed to the nearest sensitive receptors to the Project site is incorrect for several reasons.

First, even though the nearest sensitive receptors are over 1,000 feet from the Project site, this does not necessarily mean that the Project Applicant is not required to conduct an HRA. BAAQMD Guidelines recommend that any proposed project that includes placing a receptor or new emission source assess potential impacts associated with the project within 1,000 feet. However, the BAAQMD has also established the Community Air Risk Evaluation (CARE) Program, which identifies communities that experience higher levels of air pollution than others. According to BAAQMD guidelines, "the goal of the Community Risk Reduction Plan is to encourage local jurisdictions to take a proactive approach to reduce the overall exposure to TAC and PM2.5 emissions and concentrations from new and existing sources". Communities identified by the CARE Program are typically located near pollution sources such as freeways, large industrial facilities, or distribution centers. Review of the impacted communities identified by the CARE Program demonstrates that the Project will be located in one of these areas.

Furthermore, according to the DEIR, emissions generated during Project activities has the potential to affect sensitive receptors near the Project site (Appendix B, p. 16). Specifically, the DEIR states,

> "Temporary project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors" (Appendix B, p. 16).

Therefore, emissions associated with the Project have the potential to pose a health risk to sensitive receptors. Additionally, according to the BAAQMD's "CEQA Air Quality Guidelines", the recommended 1,000-foot radius can be enlarged on a case-by-case basis. Since the nearest sensitive receptor is located only 347 meters away from the Project site, and because the Project is located within a CARE community, this receptor will be impacted by the emissions generated by the Project over the 6 to 8 year construction period and throughout operation. As a result, we argue that it is critical that the proposed Project's health risk impact be assessed, since there are sensitive receptors located in close proximity to the Project site that will be impacted.

Second, according to the BAAQMD's May 2011 Recommended Methods for Screening and Modeling Local Risks and Hazards report, "the thresholds for local risks and hazards from TAC and PM2.5 are intended to apply to all sources of emissions, including both permitted stationary sources and on- and off-road mobile sources, such as sources related to construction, busy roadways, or freight movements." Therefore, an individual project would be considered significant if the total project's TAC emissions, including exhaust from construction equipment, heavy duty diesel trucks, and diesel- powered generators, would result in an increased cancer risk greater than 10 in one

million, or would result in an increased ambient air PM2.5 concentration greater than 0.3 µg/m3. However, because the DEIR has failed to evaluate whether or not these emission sources would result in an increased cancer risk or an increased ambient air PM2.5 concentration greater than 10 in one million and 0.3 µg/m3, respectively, there is no way of knowing the magnitude of the Project's impact on the health of nearby residents. Furthermore, BAAQMD's CEQA guidance states that "carcinogens are assumed to have no safe threshold below which health impacts would not occur." Thus, a proper analysis should have been conducted in order to know the full extent of the potential impacts that the Project would have on the surrounding community.

Third, failing to conduct a proper HRA conflicts with the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations and guidance on how to conduct health risk assessments in California. In February of 2015, OEHHA released its most recent Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments, which was formally adopted in March of 2015. This guidance document describes the types of projects that warrant the preparation of an HRA. As previously stated, grading and construction activities for the proposed Project will produce emissions of diesel particulate matter (DPM) through the exhaust stacks of construction equipment over an approximate 6 to 8-year period (Appendix B, Air Quality Assessment, p. 11). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors. Once construction is complete, Project operation will generate vehicle trips, which will generate additional exhaust emissions, thus continuing to expose nearby sensitive receptors to DPM emissions. The OEHHA document recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (MEIR). Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, per OEHHA guidelines, health risk impacts from Project construction and operation should have been evaluated by the DEIR. These recommendations reflect the most recent HRA policy, and as such, an assessment of health risks to nearby sensitive receptors from construction and operation should be included in a revised CEQA evaluation for the Project.

Response E.33: Refer to Responses E.13, E.14, and E.15.

Comment E.34: Updated Health Risk Assessment Indicates Significant Health Impact

In an effort to demonstrate the potential risk posed by Project construction and operation to nearby sensitive receptors, we prepared a simple screening-level HRA. The results of our assessment, as described below, provide substantial evidence that the Project's construction and operational DPM emissions may result in a potentially significant health risk impact that was not previously identified.

Modeling Parameters

In order to conduct our screening level risk assessment, we relied upon AERSCREEN, which is a screening level air quality dispersion model. The model replaced SCREEN3, and AERSCREEN is included in the OEHHA and the California Air Pollution Control Officers Associated (CAPCOA) guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary health risk screening assessment of the Project's construction and operational impact to sensitive receptors using the annual construction and operational PM10 exhaust estimates from the DEIR's CalEEMod models and the SWAPE's CalEEMod model for full Project operation. As previously mentioned, according to Google Earth, the closest sensitive receptor is approximately 347 meters away from the Project site. According to the DEIR, construction of the Project would occur over five phases over the course of 6 to 8 years (Appendix B, p. 10). Construction of Phase 1 and Phase 2 overlap by approximately 92 days and construction of Phase 2 and Phase 3 overlap by approximately 91 days. Furthermore, it is assumed that each phase of the project will become operational once constructed, therefore, construction and operation of the project will overlap (p. 49). Consistent with recommendations set forth by OEHHA, we used a residential exposure duration of 30 years, starting from the infantile stage of life. The table below shows the approximate Project construction and operation schedule of each phase of the Project, based on construction schedules provided in the construction equipment lists (Appendix B, Air Quality Assessment, pp. 34-38):

Project Construction and Operational Schedule

Phase	Start Date	End Date	Number of Days
Phase 1 Construction	10/1/2018	7/1/2019	273
Phase 1 and 2 Construction	7/1/2019	10/1/2019	92
Phase 1 Operation & Phase 2 Construction	10/1/2019	4/1/2020	183
Phase 1 Operation; Phase 2 & 3 Construction	4/1/2020	7/1/2020	91
Phase 1 - 2 Operation; Phase 3 Construction	7/1/2020	4/1/2021	274
Phase 1 - 3 Operation	4/1/2021	3/1/2022	334
Phase 1 - 3 Operation; Phase 4 Construction	3/1/2022	5/1/2023	426
Phase 1 - 4 Operation	5/1/2023	1/1/2024	245
Phase 1-4 Operation; Phase 5 Construction	1/1/2024	8/1/2025	578
Full Project Build Out	8/1/2025	10/1/2048	8,462

The AERSCREEN model relies on a continuous average emissions rate to simulate maximum downwind concentrations from point, area, and volume emission sources. To account for the variability in construction equipment usage over the phases of Project construction and operation, we calculated an average DPM emission rate by the following equation for each of the phases of construction and operation.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{lbs\ of\ DPM}{Number\ of\ days} \times \frac{453.6\ grams}{lb} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds}$$

Because the duration, start year, year of completion, and activity type vary between each phase of construction and operation, we calculated a specific emission rate for each of the phases (see table below).

Project Phase Emission Rates

Phase	DPM Emissions (tons/year)[1]	Number of Days[2]	Emission Rate (g/s)[3]
Phase 1 Construction	0.1613	365	0.00464
Phase 1 and 2 Construction	0.3648	730	0.00525
Phase 1 Operation & Phase 2 Construction	0.2463	365	0.00709
Phase 1 Operation; Phase 2 & 3 Construction	0.4626	365	0.01331
Phase 1 - 2 Operation; Phase 3 Construction	0.3121	365	0.00898
Phase 1 -3 Operation	0.1426	365	0.00410
Phase 1 - 3 Operation; Phase 4 Construction	0.3800	426	0.00937
Phase 1 - 4 Operation	0.2212	365	0.00636
Phase 1-4 Operation; Phase 5 Construction	0.4007	578	0.00728
Full Project Build Out	0.2386	365	0.00686

[1] Values representative of Exhaust PM10 Emissions taken from the DEIR's CalEEMod output files (Appendix B, pp. 39-178). Full Project Buildout operational value representative of Exhaust PM10 Emissions at full Project build out from the SWAPE CalEEMod output file.
[2] Used the entire construction period for averaging the DPM emissions.
[3] Emission rate was calculated by dividing the annual emissions by the duration for each phase, 2,000 pounds/ton; 453.6 grams/pound; 24 hours/day; 3,600 seconds/hour

Construction and operational activity was simulated as a 24-acre rectangular area source in AERSCREEN, with dimensions of 330 meters by 294 meters. A release height of three meters was selected to represent the height of exhaust stacks on operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one a half meters was used to simulated instantaneous plum dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

Modeling Outputs

The AERSCREEN model generated maximum reasonable estimates of single hour downwind DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant may be estimated by multiplying the single-hour concentration by 10%. For example, for the MEIR the single-hour concentration estimated by AERSCREEN for Phase 1 of Project construction is approximately 0.9871 µg/m3 DPM at approximately 350 meters downwind. Multiplying this single-hour concentration by 10%, we get an annual average concentration of 0.09871 µg/m3 for Project construction at the MEIR. We estimated the annualized average concentration for the remaining phases of construction and operation in this same fashion for the MEIR (see table below).

The Maximum Exposed Individual at an Existing Residential Receptor (MEIR)		
Phase	**Maximum Single Hour DPM Concentration (µg/m^3)**	**Annualized Average DPM Concentration (µg/m^3)**
Phase 1 Construction	0.9871	0.0987
Phase 1 and 2 Construction	1.1170	0.1117
Phase 1 Operation & Phase 2 Construction	1.5080	0.1508
Phase 1 Operation; Phase 2 & 3 Construction	2.8310	0.2831
Phase 1 - 2 Operation; Phase 3 Construction	1.9100	0.1910
Phase 1 -3 Operation	0.8721	0.0872
Phase 1 - 3 Operation; Phase 4 Construction	1.9930	0.1993
Phase 1 - 4 Operation	1.3530	0.1353
Phase 1-4 Operation; Phase 5 Construction	1.5490	0.1549
Full Project Build Out	1.4590	0.1459

Exposure Assumptions

We calculated the excess cancer risk for each sensitive receptor location, for adults, children, and infant receptors using applicable HRA methodologies prescribed by OEHHA. As mentioned the in the sections above, OEHHA recommends the use of ASFs to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution. According to the revised guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant), and by a factor of three for the subsequent fourteen years of life (child aged two until sixteen). Furthermore, in accordance with guidance set forth by the BAAQMD and OEHHA, we used 95th percentile breathing rates for infants and 80th percentile breathing rates for children and adults. We used a cancer potency factor of 1.1 $(mg/kg\text{-}day)^{-1}$ and an averaging time of 25,550 days.

Health Risk at the Maximally Exposed Individual Receptor (MEIR)

OEHHA recommends that a 30-year exposure duration be used as the basis for estimating cancer risk at the MEIR.23 Consistent with OEHHA guidance, exposure to the MEIR was assumed to begin in the infantile stage of life to provide the most conservative estimate of air quality hazards. The results of our calculations are shown below.

The Maximum Exposed Individual at an Existing Residential Receptor (MEIR)					
Activity	Duration (years)	Concentration ($\mu g/m^3$)	Breathing Rate (L/kg-day)	ASF	Cancer Risk
Phase 1 Construction	0.75	0.09871	1090	10	1.22E-05
Phase 1 & 2 Construction	0.25	0.1117	1090	10	4.59E-06
Phase 1 Operation; Phase 2 Construction	0.50	0.1508	1090	10	1.24E-05
Phase 1 Operation; Phase 2 & 3 Construction	0.25	0.2831	1090	10	1.16E-05
Phase 1 - 2 Operation; Phase 3 Construction	0.25	0.191	1090	10	7.84E-06
Infant Exposure Duration	***2.00***			***Infant Exposure***	***4.86E-05***
Phase 1 - 2 Operation; Phase 3 Construction	0.50	0.191	572	3	2.47E-06
Phase 1 - 3 Operation	0.91	0.08721	572	3	2.05E-06
Phase 1 - 3 Operation; Phase 4 Construction	1.17	0.1993	572	3	6.03E-06
Phase 1 - 4 Operation	0.67	0.1353	572	3	2.34E-06
Phase 1 - 4 Operation; Phase 5 Construction	1.75	0.1549	572	3	7.01E-06
Full Project Build Out Operation	8.00	0.1459	572	3	3.02E-05
Child Exposure Duration	***14.00***			***Child Exposure***	***5.01E-05***
Full Project Build Out Operation	14.00	0.1459	261	1	8.03E-06
Adult Exposure Duration	***14.00***			***Adult Exposure***	***8.03E-06***
Lifetime Exposure Duration	**30.00**			**Lifetime Exposure**	**1.07E-04**

The excess cancer risk to adults, children, and infants at the MEIR located approximately 350 meters away, over the course of Project construction and operation are approximately 8, 50, and 49 in one million, respectively. Furthermore, the excess cancer risk over the course of a residential lifetime (30 years) at the MEIR is approximately 107 in one million. Consistent with OEHHA guidance, exposure was assumed to begin in the infantile stage of life to provide the most conservative estimates of air quality hazards. The infant, child, and lifetime cancer risks all exceed the BAAQMD's threshold of 10 in one million.

It should be noted that our analysis represents a screening-level HRA, which is known to be more conservative, and is aimed at health protection. The purpose of a screening-HRA, however, is to determine if a more refined HRA needs to be conducted. If the results of a screening-level HRA are above applicable thresholds, then the Project needs to conduct a more refined HRA that is more representative of site specific concentrations. Our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. As a result, a refined HRA must be prepared to examine air quality impacts generated by Project construction and operation using site- specific meteorology and specific equipment usage schedules. An updated DEIR must be prepared to adequately evaluate the Project's health risk impact and should include additional mitigation measures to reduce these impacts to a less-than-significant level.

Response E.34: Refer to Responses E.11, E.13, E.14, and E.15.

Comment E.35: Mitigation Measures Available to Reduce Construction Emissions

Our updated air quality analysis and HRA demonstrate that, when Project activities are modeled correctly, construction-related NO_x, DPM, and ROG emissions would result in significant air quality and health risk impacts. Therefore, mitigation measures must be identified and incorporated in an updated DEIR to reduce these impacts to a less than significant level.

Mitigation measures can be found in CAPCOA's Quantifying Greenhouse Gas Mitigation Measures, which attempt to reduce GHG levels, as well as reduce Criteria Air Pollutants such as particulate matter and NO_x. DPM and NO_x are a byproduct of diesel fuel combustion, and are emitted by on-road vehicles and by off-road construction equipment. Mitigation for criteria pollutant emissions should include consideration of the following measures in an effort to reduce construction emissions.

Limit Construction Equipment Idling Beyond Regulation Requirements

Heavy duty vehicles will idle during loading/unloading and during layovers or rest periods with the engine still on, which requires fuel use and results in emissions. The California Air Resources Board (CARB) Heavy-Duty Vehicle Idling Emissions Reduction Program limits idling of diesel-fueled commercial motor vehicles to five minutes. Reduction in idling time beyond the five minutes required under the regulation would further reduce fuel consumption and thus emissions. The Project applicant must develop an enforceable mechanism that monitors the idling time to ensure compliance with this mitigation measure.

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative (NEDC) is a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology. The NEDC recommends that contracts for all construction projects require the following diesel control measures: 27

- All diesel onroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA 2007 onroad emissions standards or (2) emission control technology verified by EPA or the California Air Resources Board (CARB) to reduce PM emissions by a minimum of 85 percent.
- All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85 percent.
- All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85 percent for engines 50 horse power (hp) and greater and by a minimum of 20 percent for engines less than 50 hp.
    - Mitigation Measure AIR-1.2 states that all mobile diesel-powered off-road equipment larger than 25 horsepower and that will be used for more than two days shall be equipped with Tier 4 engines or equivalent and shall include the use of CARB-certified Level 3 Diesel Particulate Filters (p. xi). We propose that this measure be extended so that all pieces of off-road construction equipment that the Project proposes to use be equipped with Tier 4 engines or equivalent.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited. Due to this limitation, the NEDC proposes actions that can be taken to reduce emissions from existing equipment in the Best Practices for Clean Diesel Construction report. These actions include but are not limited to:

- Repowering equipment (i.e. replacing older engines with newer, cleaner engines and leaving the body of the equipment intact).

Engine repower may be a cost-effective emissions reduction strategy when a vehicle or machine has a long useful life and the cost of the engine does not approach the cost of the entire vehicle or machine. Examples of good potential replacement candidates include marine vessels, locomotives, and large construction machines. Older diesel vehicles or machines can be repowered with newer diesel engines or in some cases with engines that operate on alternative fuels (see section "Use Alternative Fuels for Construction Equipment" for details). The original engine is taken out of service and a new engine with reduced emission characteristics is installed. Significant emission reductions can be achieved, depending on the newer engine and the vehicle or machine's ability to accept a more modern engine and emission control system. It should be noted, however, that newer engines or higher tier engines are not necessarily cleaner engines, so it is important that the Project Applicant check the actual emission standard level of the current (existing) and new engines to ensure the repower product is reducing emissions for DPM.

- Replacement of older equipment with equipment meeting the latest emission standards.

Engine replacement can include substituting a cleaner highway engine for a nonroad engine. Diesel equipment may also be replaced with other technologies or fuels. Examples include hybrid switcher locomotives, electric cranes, LNG, CNG, LPG or propane yard tractors, forklifts or loaders. Replacements using natural gas may require changes to fueling infrastructure. Replacements often require some re-engineering work due to differences in size and configuration. Typically, there are benefits in fuel efficiency, reliability, warranty, and maintenance costs.

Install Retrofit Devices on Existing Construction Equipment

PM emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation. It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications.

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's Quantifying Greenhouse Gas Mitigation Measures report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the

equipment. Specifically, for each onroad construction vehicle, nonroad construction equipment, or generator, the contractor should submit to the developer's representative a report prior to bringing said equipment on site that includes:

- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.
- The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
- The Certification Statement40 signed and printed on the contractor's letterhead.

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each onroad construction vehicle, nonroad construction equipment, or generator onsite, includes: 41

- Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
- Any problems with the equipment or emission controls.
- Certified copies of fuel deliveries for the time period that identify:
    - Source of supply
    - Quantity of fuel
    - Quality of fuel, including sulfur content (percent by weight).

In addition to these measures, we also recommend that the Applicant implement the following mitigation measures, called "Enhanced Exhaust Control Practices," that are recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD):

1. The project representative shall submit to the lead agency a comprehensive inventory of all off- road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.

- The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
- The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
- This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment.
- The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

2. The project representative shall provide a plan for approval by the lead agency demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet- average 20% NO_x reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average.

- This plan shall be submitted in conjunction with the equipment inventory.
- Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
- The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.

3. The project representative shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.

- Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the lead agency monthly.
- A visual survey of all in-operation equipment shall be made at least weekly.
- A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.

4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

Response E.35: Refer to Response E.16.

Comment E.36: Furthermore, our air quality analysis demonstrates that operational ROG (also known as VOC) emissions will exceed BAAQMD average thresholds. In an effort to mitigate these measures, the following mitigation measures should be considered.

Use of Zero-VOC Emissions Paint
The Project Applicant should consider the use of low ROG coatings. The use of zero-VOC emission paint has been required for numerous projects that have undergone CEQA review. Zero-VOC emission paints are commercially available. Other low-VOC standards should be incorporated into mitigation including use of "super-compliant" paints, which have a VOC standard of less than 10 g/L.

Mitigation Measure AIR-2.2 states at least 50 percent of residential and nonresidential interior and exterior paints applied during both construction and reapplication must meet the "super-compliant" VOC standard and be less than 10 g/L (p. xi). We propose that this measure be extended so that all paints used during construction and reapplication meet the "super-compliant" VOC standard of less than 10 g/L.

Use of Material that Do Not Require Paint
Using materials that do not require painting is a common mitigation measure where VOC emissions are a concern. Interior and exterior surfaces, such as concrete, can be left unpainted.

Use of Spray Equipment with Greater Transfer Efficiencies
Various coatings and adhesives are required to be applied by specified methods such as electrostatic spray, high-volume, low-pressure (HVLP) spray, roll coater, flow coater, dip coater, etc. in order to maximize the transfer efficiency. Transfer efficiency is typically defined as the ratio of the weight of coating solids adhering to an object to the total weight of coating solids used in the application process, expressed as a percentage. When it comes to spray applications, the rules typically require the use of either electrostatic spray equipment or HVLP spray equipment. The SCAQMD is now

able to certify HVLP spray applicators and other application technologies at efficiency rates of 65 percent or greater.

> **Response E.36:** As discussed in Section 3.3.2.2 of the Draft EIR, the project would result in significant operational ROG emissions (see Impact AIR-2 in the Draft EIR). As explained on page 47 of the Draft EIR, the implementation of mitigation measures MM AIR-2.1 and MM AIR-2.2 would reduce project operational ROG emissions to below the annual and average daily thresholds for significance. For this reason, no additional mitigation measures, such as the ones suggested in the above comment, are required.

Comment E.37: These measures offer a cost-effective, feasible way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently reduces, ROG, NO_x, DPM emissions released during Project construction. An updated DEIR must be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions. Furthermore, the Project Applicant needs to demonstrate commitment to the implementation of these measures prior to Project approval to ensure that the Project's construction-related emissions are reduced to the maximum extent possible.

> **Response E.37:** Refer to Response E.16. If the project is approved, the City shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects (CEQA Guidelines Section 15097[a]). The adoption and implementation of the mitigation monitoring or reporting program shall ensure the project implements the required mitigation measures.

Comment E.38: Greenhouse Gas Failure to Implement All Feasible Mitigation to Reduce Emissions

The DEIR's GHG analysis determines that the Project's GHG emissions would exceed the thresholds set forth by the BAAQMD (p. 92). As a result, the DEIR proposes several mitigation measures to reduce the Project's GHG emissions (DEIR, pp. 15-17). However, even after implementation of mitigation, the DEIR concludes that Option 1 of the Project would result in a significant and unavoidable impact with respect to GHG emissions (p. 92). While it is true that the Project would result in significant GHG impacts under Option 1, the DEIR's conclusion that these impacts are "significant and unavoidable" is entirely incorrect. According to the California Environmental Quality Act (CEQA),

> "CEQA requires Lead Agencies to mitigate or avoid significant environmental impacts associated with discretionary projects. Environmental documents for projects that have any significant environmental impacts must identify all feasible mitigation measures or alternatives to reduce the impacts below a level of significance. If after the identification of all feasible mitigation measures, a project is still deemed to have significant environmental impacts, the Lead Agency can approve a project, but must adopt a Statement of Overriding Consideration to explain why further mitigation measures are not feasible and why approval of a project with significant unavoidable impacts is warranted."

As you can see, an impact can only be labeled as significant and unavoidable after all available, feasible mitigation is considered. Review of the Project's proposed mitigation measures, however, demonstrates that not all feasible mitigation is being implemented. Therefore, the DEIR's conclusion that impacts are significant and unavoidable is unsubstantiated. As a result, additional mitigation measures should be identified and incorporated in order to reduce the Project's air quality impacts to the maximum extent possible. Until all feasible mitigation is reviewed and incorporated into the Project's design, impacts from GHG emissions cannot be considered as significant and unavoidable.

Response E.38: Refer to Response E.17.

Comment E.39: Feasible Mitigation Measures Available to Reduce Operational Emissions

Our analysis demonstrates that the Project's operational NO_x, DPM, and GHG emissions may present a potentially significant impact. In an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the Project. Feasible mitigation measures can be found in CAPCOA's Quantifying Greenhouse Gas Mitigation Measures, which attempt to reduce GHG levels, as well as reduce criteria air pollutants such as particulate matter and NO_x emissions.46 Therefore, to reduce the Project's operational NO_x, DPM, and GHG emissions, consideration of the following measures should be made.

- Incorporate Bike Lane Street Design (On-Site)
    - Incorporating bicycle lanes, routes, and shared-use paths into street systems, new subdivisions, and large developments can reduce VMTs. These improvements can help reduce peak-hour vehicle trips by making commuting by bike easier and more convenient for more people. In addition, improved bicycle facilities can increase access to and from transit hubs, thereby expanding the "catchment area" of the transit stop or station and increasing ridership. Bicycle access can also reduce parking pressure on heavily-used and/or heavily-subsidized feeder bus lines and auto-oriented park-and-ride facilities.
- Limit Parking Supply
    - This mitigation measure will change parking requirements and types of supply within the Project site to encourage "smart growth" development and alternative transportation choices by project residents and employees. This can be accomplished in a multi-faceted strategy:
        - Elimination (or reduction) of minimum parking requirements
        - Creation of maximum parking requirements
        - Provision of shared parking
- Implement Commute Trip Reduction Program- Voluntary or Required
    - Implementation of a Commute Trip Reduction (CTR) program with employers will discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The main difference between a voluntary and a required program is:
        - Monitoring and reporting is not required
        - No established performance standards (i.e. no trip reduction requirements)
    - The CTR program should provide employees with assistance in using alternative modes of travel, and provide both "carrots" and "sticks" to encourage employees.

The CTR program should include all of the following to apply the effectiveness reported by the literature:

- Carpooling encouragement
- Ride-matching assistance
- Preferential carpool parking
- Flexible work schedules for carpools
- Half time transportation coordinator
- Vanpool assistance
- Bicycle end-trip facilities (parking, showers and lockers)

- Provide Ride-Sharing Programs
  - Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip, and thus a decrease in VMT. The project should include a ride-sharing program as well as a permanent transportation management association membership and funding requirement. The project can promote ride-sharing programs through a multi-faceted approach such as:
    - Designating a certain percentage of parking spaces for ride sharing vehicles
    - Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles
    - Providing a web site or message board for coordinating rides
- Implement Subsidized or Discounted Transit Program
  - This project can provide subsidized/discounted daily or monthly public transit passes to incentivize the use of public transport. The project may also provide free transfers between all shuttles and transit to participants. These passes can be partially or wholly subsidized by the employer, school, or development. Many entities use revenue from parking to offset the cost of such a project.
- Implement Preferential Parking Permit Program
  - The project can provide preferential parking in convenient locations (such as near public transportation or building front doors) in terms of free or reduced parking fees, priority parking, or reserved parking for commuters who carpool, vanpool, ride-share or use alternatively fueled vehicles. The project should provide wide parking spaces to accommodate vanpool vehicles.
- Price Workplace Parking
  - The project should implement workplace parking pricing at its employment centers. This may include: explicitly charging for parking for its employees, implementing above market rate pricing, validating parking only for invited guests, not providing employee parking and transportation allowances, and educating employees about available alternatives.
  - Though similar to the Employee Parking "Cash-Out" strategy, this strategy focuses on implementing market rate and above market rate pricing to provide a price signal for employees to consider alternative modes for their work commute.
- Implement Employee Parking "Cash-Out"
  - The project can require employers to offer employee parking "cash-out." The term "cash-out" is used to describe the employer providing employees with a choice of forgoing their current subsidized/free parking for a cash payment equivalent to the cost of the parking space to the employer.

We also identified several mitigation measures that the DEIR fails to incorporate, which would further reduce the Project's GHG emissions, potentially to a less-than-significant level. Additional mitigation measures that could be implemented to reduce GHG emissions include, but are not limited to, the following:

- Use passive solar design, such as:
    - Orient buildings and incorporate landscaping to maximize passive solar, heating during cool seasons, and minimize solar heat gain during hot seasons.
- Reduce unnecessary outdoor lighting by utilizing design features such as limiting the hours of operation of outdoor lighting.
- Develop and follow a "green streets guide" that requires:
    - Use of minimal amounts of concrete and asphalt;
    - Use of groundcovers rather than pavement to reduce heat reflection.50
- Implement Project design features such as:
    - Shade HVAC equipment from direct sunlight;
    - Install high-albedo white thermoplastic polyolefin roof membrane;
    - Install high-efficiency HVAC with hot-gas reheat;
    - Install formaldehyde-free insulation; and
    - Use recycled-content gypsum board.
- Provide education on energy efficiency to residents, customers, and/or tenants. Provide information on energy management services for large energy users.
- Meet "reach" goals for building energy efficiency and renewable energy use.
- Require all buildings to become "LEED" certified.
- Limit the use of outdoor lighting to only that needed for safety and security purposes.
- Require use of electric or alternatively fueled sweepers with HEPA filters.
- Include energy storage where appropriate to optimize renewable energy generation systems and avoid peak energy use.
- Plant low-VOC emitting shade trees, e.g., in parking lots to reduce evaporative emissions from parked vehicles.
- Install an infiltration basin to provide an opportunity for 100% of the storm water to infiltrate on-site.

Finally, the Kimball Business Park Project Final Environmental Impact Report includes various feasible mitigation measures that would reduce on-site area emissions that are applicable to the proposed Project's retail land use, and include, but are not limited to: 51

- Increase in insulation such that heat transfer and thermal bridging is minimized.
- Limit air leakage through the structure and/or within the heating and cooling distribution system.
- Installation of dual-paned or other energy efficient windows.
- Installation of automatic devices to turn off lights where they are not needed.

When combined, these measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduces emissions released during Project operation. An updated DEIR must be prepared to include mitigation measures, as well as include an updated air quality analysis to ensure that the necessary mitigation measures are implemented to reduce operational NO_x, DPM, and GHG emissions to below thresholds. The Project Applicant also needs to demonstrate commitment to the implementation of these measures prior to

Project approval, to ensure that the Project's operational significant emissions are reduced to the maximum extent possible.

Response E.39: Refer to Responses E.9 and E.17.

The following are comments contained in Exhibit B of Comment Letter E. Refer to Appendix A for a complete copy of Exhibit B, including footnotes.

Comment E.40: The DEIR fails to Present an Accurate Analysis of the Project's Impacts on the Existing Transportation Environment Because Traffic Counts Do Not Properly Represent the Environmental Setting of the Project

CEQA Guidelines §15125 (a) provides that the ordinary baseline for measuring impacts is the environmental condition that existed at the time the Notice of Preparation ("NOP") for the Project was circulated or if there was no NOP, the date environmental analysis for the Project was initiated. This DEIR's NOP was issued in February, 2017. The prior use of the site was terminated between January and April 2016 and the prior building on the site was demolished between late 2016 and early 2017. Yet the baseline traffic counts for the "existing traffic condition" are a hodge-podge of counts taken from September, 2014 and dates in 2015 when there was some level of prior use of the Project site and dates in March of 2017 when prior activity on the Project site had clearly been terminated. Hence, there is no clear environmental baseline of traffic conditions that existed at the time of the NOP. In fact, of the 18 existing intersections for which traffic analysis was performed, in the AM peak hour, 11 were counted in 2014 or 2015 when the prior use was contributing to the baseline and the other 7 were counted in March, 2017 when the prior use had clearly terminated. In the PM peak hour, 10 of the intersections were counted when the prior use was contributing traffic to the traffic baseline while 8 intersections were counted after the prior use had clearly terminated. Also, none of the counts taken in 2014 or 2015 were adjusted to ambient traffic growth to 2017. As a result, the DEIR fails to properly represent the environmental setting of the project. The DEIR should be revised to properly reflect the environmental setting of the project and its impact.

Response E.40: Refer to Responses E.19 and E.21.

Comment E.41: The Project's Trip Generation Analysis Understates Net New Project Trips

As noted above, the prior use of the Project site was terminated well before the issuance of the NOP for the project and the prior facilities on site were demolished well before that date. Yet the Project's trip generation analysis deducts the full theoretical trip generation of the prior use at full occupancy from the trip generation of the Project as if that use had existed at the time of the NOP and as if it had been measured in all of the baseline counts. The inappropriate trip credit taken for the trips of the prior use can be seen in DEIR Table 3.17-5 and in Appendix G, Table 7. This results in an 18.37 percent reduction in the net new daily trips, a 37.8 percent reduction in the AM peak trips and a 27.29 percent reduction in the PM trips actually generated by the Project. As a result, the Project's transportation impacts are greatly underestimated. A revised DEIR should be prepared that will account for the full transportation impact of the Project.

Response E.41: Refer to Response E.21.

Comment E.42: The Existing + Project Analysis Reflects Further Confusion because it Is Based on the Project's Trip Generation Without Deducting Credit for the Prior Use

The DEIR's Existing + Project analysis attempts to compensate for the muddled traffic count base by, as explained on Appendix G page 32, calculating the level of service impacts by assigning and adding the Project's net new trips without deducting trip credit for the prior R&D use to the measured traffic volumes. This, however, does not compensate for the abovementioned problem of failing to properly represent the environmental setting.

Response E.42: Refer to Response E.21.

Comment E.43: The DEIR's Short Range Traffic Analysis Is Yet More Convoluted

The DEIR's short range analysis (Existing + Background Projects + Project) attempts to compensate for the muddled traffic baseline in a different way. It allows the credit for the trips of the prior use of the Project site to be deducted from the Project's trip generation. But it attempts to compensate and get the end result traffic impacts and mitigation needs right by including the theoretical trips of the prior use as if the former R&D facility were a concurrent project (thereby seeming to offset their inappropriate deduction from the Project's trip generation).

However, this adjustment neither compensates for the strange admixture of existing traffic counts, nor does it properly account for the Project's full increment to, and fair share financial contribution responsibility for, traffic impacts. That is, the analysis improperly reduces the project's relative share by 1) allowing the project to take credit for the R&D trips, which unjustifiably reduces the project's relative share, while 2) at the same time, adding the former R&D facility trips to the existing trips (i.e., "enlarges the pie" of trips), thus further reducing the project's relative share of impacts. The fair share must be based on the Project's contribution of trips without deduction of prior use trips from the Project's trip totals. The analysis must be revised to accurately reflect the Project's fair share of transportation impacts.

Response E.43: Refer to Response E.21.

Comment E.44: Some Impacts on Transit Services Are Not Disclosed, Other Impacts Disclosed Are Summarily Dismissed and Should Be Analyzed

The DEIR assumes a 9 percent reduction in the motor vehicle trip generation of the Project's housing component based on its proximity to the Santa Clara Caltrain Station and the VTA transit lines that service it. However, the DEIR fails to analyze what impact adding those trips, which amount to 74 trips in the AM peak hour and 89 trips in the PM peak hour over and above the transit trips that would normally take place from a housing project located beyond a half-mile from a rail station, would have with regard to overcrowding on Caltrain and the VTA lines at that location.

Response E.44: Refer to Responses E.23 and E.24.

Comment E.45: The DEIR does estimate the Project traffic's impacts with regard to delay of VTA transit services. It discloses that peak hour delay impacts on some VTA lines could be generally less than three minutes. The details of the analysis, presented in Appendix G state that delays to transit are no greater than two minutes, but this appears to be referring to delays to individual lines at individual impact intersections. If the delays at all the affected intersections on a particular route are considered, the three-minute figure stated in the DEIR could be entirely reasonable as a net delay experienced. However, the DEIR and its Appendix G summarily dismiss these findings as merely informational because neither VTA nor the City of Santa Clara have established policies or significance criteria related to transit vehicle delay. The concurrent background projects identified in the transportation analysis comprise a list of 105 individual projects that easily involve, in aggregate, 10 or more times the trip generation of the subject Project. If each group of projects that had a trip generation equivalent to the subject Project were to create a three-minute delay for VTA lines, the transit system in the area would become completely bogged down and dysfunctional.

The agency should adopt a significance threshold to analyze the impact on public transit. Performance measures are used by different California Metropolitan Planning Organizations to evaluate the performance of public transit. Such measures are used to evaluate mobility – the degree of ease of travel between origins and destinations. Such thresholds may be qualitative or quantitative, such as average speed, relative delay time or travel time. (see Mineta Transportation Institute, "Transit Performance Measures in California", April 2016).

Response E.45: Refer to Responses E.23 and E.24.

Comment E.46: The Reduced Development Alternative is Environmentally Superior to the Proposed Development

The DEIR discloses the Project (Option 2) would have the following significant traffic impacts:

Existing + Project Condition

The Project would significantly impact 2 intersections in the Existing + Project condition; 2 in the City of Santa Clara, but one of which is under jurisdiction is a CMP intersection under jurisdiction of Santa Clara County. Feasible mitigations for these locations are defined but because of jurisdictional issues affecting implementation at the County intersection location, the impacts are characterized as significant and unavoidable.

The Project would significantly impact mixed flow lanes on 21 freeway segments in at least one of the AM or PM peak hours. The DEIR identifies feasible mitigation for these impacts but because of jurisdictional issues affecting implementation and because the mitigations are not fully funded, classifies impacts at all of these locations as significant and unavoidable.

Background + Project Condition

The Project would significantly impact 5 intersections within the Cities of Santa Clara and San Jose, three of which are CMP intersections. The DEIR identifies feasible mitigations at all of these locations, but because of jurisdictional issues, but because of jurisdictional issues affecting implementation, classifies impacts at four locations as significant and unavoidable.

The Project would significantly impact mixed flow lanes on 21 freeway segments in at least one of the AM or PM peak hours. The DEIR identifies feasible mitigation for these impacts but because of jurisdictional issues affecting implementation and because the mitigations are not fully funded, classifies impacts at all of these locations as significant and unavoidable.

Cumulative + Project Condition

The Project would have impacts that are cumulatively considerable at 7 intersections within the Cities of Santa Clara and San Jose, 5 of which are CMP intersections. Feasible mitigation measures are disclosed for all of the intersections but the DEIR classifies impacts at 6 of the locations as significant and unavoidable because of jurisdictional issues affecting implementation.

The DEIR traffic analysis does not include a freeway segment analysis for the Cumulative + Project condition.

Project Option 1

The DEIR and its Appendix G discloses that Project Option 1, which has 200 less dwelling units than Project Option 2 that is the basis for the disclosures summarized above, would have the same intersection impacts and one less freeway segment impact than summarized above.

Based on the foregoing, it is evident that the Project would have extensive traffic impacts, many of which may be unavoidable, or if not, would remain unmitigated for a lengthy period of time. The Reduced Development Alternative avoids the Project's significant and unavoidable transportation impacts and is classified as the environmentally superior alternative.

Response E.46: The above comment is acknowledged. No environmental comments were raised, therefore, no further response is required.

Comment E.47: This completes my current comments on the Gateway Crossings Mixed Use Development DEIR. For the reasons stated above, the DEIR's transportation analysis is inadequate and must be revised. The revised version should be recirculated in 'draft' status.

Response E.47: Refer to Responses E.40 through E.46. The transportation impact analysis and EIR do not need to be recirculated. The recirculation of an EIR is required when significant new information is added to the EIR (CEQA Guidelines Section 15088.5). The responses to these comments clarify information in the Draft EIR. The comments raised do not identify a new or more significant impact, or a new feasible project alternative or mitigation measure considerably different from others identified in Draft EIR but the project proponent declines to adopt it. For these reasons, the EIR does not need to be recirculated.

SECTION 5.0 DRAFT EIR TEXT REVISIONS

This section contains revisions to the text of the Gateway Crossings Draft EIR dated April 2018. Revised or new language is underlined. All deletions are shown with a ~~line through the text~~.

Page ix Summary; Summary of Significant Impacts and Mitigation Measures: **DELETE** the following bullet points:

The project would result in the following significant unavoidable impacts:

- ~~Greenhouse gas emissions (Option 1 only)~~
- Noise (exterior noise, including aircraft noise)
- Transportation (intersection and freeway levels of service)

The project would also result in the following significant unavoidable cumulative impacts:

- ~~Greenhouse gas emissions (Option 1 only)~~
- Transportation (intersection levels of service)
- Utilities (landfill capacity)

Page xiv Summary: **REVISE** the mitigation measure text associated with Impact GHG-1 as follows:

Greenhouse Gas Emissions	
Impact GHG-1: The proposed project (Option 1 only) would generate significant GHG emissions.	The project (both options) reduces GHG emissions in various ways, including: • Developing an infill site; • Proposing a mix of uses; • Proposing high-density residential uses near existing transit; • Implementing a TDM program to promote automobile-alternative modes of transportation (see MM AIR-2.1); • Constructing bike lanes on Coleman Avenue and Brokaw Road; • Improving an existing bus stop; • Constructing in conformance with the Title 24 and CALGreen to promote energy and water efficiency; • Installing both EV fixtures and wiring for additional EV stalls in all of the parking garages; • Including recycling services onsite to reduce solid waste disposal; • Planting trees to reduce the heat island effect; • Connecting to recycled water for landscape irrigation; • Providing for use of lawn and garden equipment

powered by electricity; and
- Incorporating permeable paving.

MM GHG-1.1: Under Option 1 only, the project proponent shall prepare and implement a GHG Reduction Plan to offset the project-related incremental increase of greenhouse gas emissions resulting in the exceedance of the significance threshold of 2.6 $MTCO_2e$/year/service population. Refinement of the estimated GHG emissions from project Option 1 shall be completed as part of the GHG Reduction Plan in order to reflect the most current and accurate data available regarding the project's estimated emissions (including emission rates). The GHG Reduction Plan shall include the implementation of a qualifying TDM program to reduce mobile GHG emissions. Additional offsets and reductions may include, but are not limited to, the following:

- Construct on-site or fund off-site carbon sequestration projects (such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted). If project Option 1 develops an off-site project, it must be registered with the Climate Action Reserve or otherwise approved by BAAQMD in order to be used to offset project Option 1 emissions; and/or
- Purchase of carbon credits to offset project Option 1 annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB or BAAQMD. The preference for offset carbon credit purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by the City.

Implementation of MM AIR-2.1 and MM GHG-1 would reduce project Option 1 GHG emissions impact to a less than significant level by reducing project VMT-related GHG emissions and implementing a GHG Reduction Plan that would offset and/or reduce GHG emissions to below the significance threshold. **(Less than Significant Impact with Mitigation Incorporated)**

~~Even with the implementation of the above features to reduce GHG emissions, Option 1 would exceed the 2.6 MT of CO_2e per year per service population threshold needed to achieve the state's 2030 target. Option 1's GHG emissions, therefore, are considered significant unavoidable.~~

~~**Significant Unavoidable Impact**~~

Page xv Summary: **REVISE** the impact and mitigation text for Impact C-GHG-1 as follows:

Impact C-GHG-1: The proposed project (~~Option 1 only~~both options) would generate significant cumulative GHG emissions.	The project (both options) shall implement mitigation measure MM AIR-2.1. The implementation of MM AIR-2.1 (a VMT Reduction Plan) would reduce project Option 2 GHG emissions to below the 2.6 MT of CO2e per year per service population threshold needed to achieve the state's 2030 target. In addition to MM AIR-2.1, project Option 2 shall implement MM GHG-1.1 (a GHG Reduction Plan). Project Option 2, with the implementation MM AIR-2.1 and MM GHG-1.1, would result in GHG emissions below the 2.6 MT of CO2e per year per service population threshold needed to achieve the state's 2030 target.~~While Option 1 includes features that reduce GHG emissions, Option 1's emissions are above the 2.6 MT of CO_2e per year per service population threshold needed to achieve the state's 2030 target. Option 1's GHG emissions, therefore, are considered significant unavoidable.~~ **Less than Significant ~~Unavoidable~~ Cumulative Impact with Mitigation Incorporated**

Page xv Summary: **REVISE** mitigation measure MM HAZ-1.1 as follows:

Impact HAZ-1: Construction workers, future occupants, and the surrounding environment could be exposed to contaminated soils and subject to soil vapor intrusion.	**MM HAZ-1.1:** The project shall develop and implement a Site Management Plan (SMP) that outlines the measures required to mitigate potential risks (including soil vapor intrusion) to construction workers, future occupants, and the environment from potential exposure to hazardous substances that may be encountered during soil intrusive or construction activities on-site. As part of the SMP, the requirements of a worker health and safety plan shall be outlined ~~be prepared that identifies procedures~~ to address potential hazards to construction workers and off-site receptors that may result from construction activities. Each contractor shall be required to develop their own site-specific health and safety plan to protect their workers. The SMP shall also identify all wells on-site and identify measures to protect and/or abandon existing remediation systems, groundwater monitoring wells, and soil vapor monitoring wells. All wells to be abandoned shall be permitted through the SCVWD. The SMP prepared as stipulated above was submitted and approved by ~~shall be submitted to the City and the~~ RWQCB in May 2016. This approved SMP was submitted to the City and a copy~~for approval prior to commencement of construction activities. A draft of the SMP~~ is included in Appendix E of this EIR.

	Less than Significant Impact with Mitigation Incorporated

Page xviii Summary: **REVISE** the text from mitigation measure MM TRAN-1.1 and MM TRAN-1.2 as follows:

Transportation/Traffic	
Impact TRAN-1: The project (under either option) would have a significant impact under existing plus project conditions at the following two intersections: 1. Coleman Avenue/Brokaw Road (City of Santa Clara) and 6. De La Cruz Boulevard/Central Expressway (City of Santa Clara/CMP).	**MM TRAN-1.1:** 1. Coleman Avenue/Brokaw Road (City of Santa Clara) – This intersection is under the jurisdiction of the City of Santa Clara. The improvement includes changing the signal for Brokaw Road (the east and west legs of this intersection) from protected left-turn phasing to split phase, adding a shared through/left turn lane to the east and west approaches within the existing right-of-way, changing the existing shared through/right-turn lanes to right-turn only lanes on the east and west approaches, changing the eastbound right-turn coding from "include" to "overlap" indicating that eastbound right turns would be able to turn right on red, prohibiting U-turns on northbound Coleman Avenue, and adding a third southbound through lane on Coleman Avenue ~~by removing the pork chop island, squaring off the corner~~, and restriping to provide exclusive southbound through and right turn lanes. **Less than Significant Impact with Mitigation Incorporated** **MM TRAN-1.2:** 6. De La Cruz Boulevard/Central Expressway (City of Santa Clara/CMP) – This intersection is located in the City of Santa Clara and under the jurisdiction of Santa Clara County. The Comprehensive County Expressway Planning Study identifies the conversion of the single HOV lane in each direction to mixed-flow lanes on Central Expressway as a Tier 1A project. The approved City Place development also identifies adding a second southbound right-turn lane and a third northbound left-turn lane as a mitigation measure. The project shall make a fair-share contribution towards the HOV lane conversion and additional ~~turn lanes~~lane geometry improvements identified as mitigation for the City Place project. The project shall implement MM TRAN-1.2, however, the impact is concluded to be significant unavoidable because the improvement at this intersection is not under the jurisdiction

	of the City of Santa Clara and the City cannot guarantee the implementation of the improvement concurrent with the proposed project. **Significant Unavoidable with Mitigation Incorporated**

Page xix-xx Summary: **REVISE** the text from mitigation measure MM TRAN-3.2 and MM TRAN-3.3 as follows:

Impact TRAN-3: The project (under either option) would have a significant impact under background plus project conditions at the following five intersections: 1. Coleman Avenue/Brokaw Road (City of Santa Clara); 6. De La Cruz Boulevard/Central Expressway (City of Santa Clara/CMP); 7. Lafayette Street/Central Expressway (City of Santa Clara/CMP); 13. Coleman Avenue/I-880 (S) (City of San José/CMP); and 15. Coleman Avenue/Taylor Street (City of San José)	The project proposes to implement MM TRAN-1.1 and -1.2 and the following mitigation measures to reduce the project's significant level of service impacts: **MM TRAN-3.1:** 7. Lafayette Street/Central Expressway (City of Santa Clara/CMP) – This intersection is located in the City of Santa Clara and under the jurisdiction of Santa Clara County. The Comprehensive County Expressway Planning Study identifies the conversion of the single HOV lane in each direction to mixed-flow lanes on Central Expressway as a Tier 1A project. The project shall make a fair-share contribution towards this improvement. **MM TRAN-3.2:** 13. Coleman Avenue/I-880 (S) (City of San José/CMP) – This intersection is located in the City of San José and under the jurisdiction of the City of San José. This improvement includes restriping one of the left-turn lanes to a shared left- ~~or~~and right-turn lane, effectively creating three right-turn lanes. Three receiving lanes currently exist on the north leg of Coleman Avenue. **MM TRAN-3.3:** 15. Coleman Avenue/Taylor Street (City of San José) – This intersection is located in and under the jurisdiction of the City of San José. The widening of Coleman Avenue to six lanes has been identified as a Downtown Strategy 2000 improvement by the City of San José and is an approved project that will be implemented in the near-term. The project shall make a fair-share contribution towards this improvement.

Page xxi Summary: **REVISE** mitigation measure MM C-TRAN-1.2 as follows:

MM C-TRAN-1.2: 12. Coleman Avenue/I-880 (N) – This intersection is located in the City of San José and under the jurisdiction of the City of San José. This improvement would include restriping one of the left-turn lanes to a shared left- ~~or~~and right-turn lane, effectively creating ~~three~~two right-turn lanes. Three receiving lanes currently exist on the north leg of Coleman Avenue. With implementation of this improvement, the intersection would operate at an acceptable LOS C during the AM peak hour.

Page 12 Section 2.2.1.4 Green Building Measures and Vehicle Miles Traveled Reduction Plan: **ADD** the following text after the first paragraph:

The project also proposes to reduce unnecessary outdoor lighting by utilizing design features such as limiting the hours of operation of outdoor lighting, provide education on energy efficiency to residents, customers, and/or tenants, provide information on energy management services for large energy users, meet "reach" goals for building energy efficiency and renewable energy use, and achieve LEED certification for the proposed hotel building.

Page 12 Section 2.2.1.4 Green Building Measures and Vehicle Miles Traveled Reduction Plan: **REVISE** the text of the last paragraph as follows:

As part of the project, a Vehicle Miles Traveled (VMT) Reduction Plan shall be developed and implemented. The VMT Reduction Plan shall achieve a 20 percent reduction in project VMT, half of which (a 10 percent reduction) shall be achieved with TDM measures. The VMT reductions may be achieved through project design characteristics, land use, parking, access, and TDM best practices ~~(e.g., on-site bicycle parking and Eco Passes for residents)~~. TDM best practices could include the following:

- Project design to encourage walking, bicycling (e.g., on-site bike lane street design), and convenient transit access;
- Parking cash out/parking pricing;
- Transit fare incentives such as such as free or discounted transit passes on a continuing basis;
- First mile/last mile ride sharing voucher;
- Public-private partnerships or employer contributions to provide improved transit or shuttle service in the project area;
- Commute Trip Reduction Program;
- Ride-sharing programs;
- Bicycle lockers and bicycle racks;
- Showers and clothes lockers for bicycle commuters;
- Preferential parking permit program;
- Parking for car-sharing vehicles; and/or
- Reduced parking ratios/limited parking supply.

The project's VMT Reduction Plan is subject to the City's annual reporting requirements.

Page 13 Section 2.2.1.5 Site Access and Parking: **REVISE** the text of the third paragraph as follows:

EV charging stations (a minimum of three percent of total parking spaces) would be provided for the proposed uses throughout the project site, including within the parking garages. The project proposes one Class I bicycle parking space per three residential units and one class II bicycle parking spaces per 15 residential units. The project would provide four Class II bicycle parking spaces for the park; eight Class I bicycle parking spaces for the 225 room hotel; one Class I bicycle parking space and five Class II parking spaces for the 15,000 square feet of proposed retail space; and 533 Class I bicycle parking spaces and 107 Class II bicycle parking spaces for the 1,600 residential units. The bicycle parking spaces would be provided within the residential parking garages, ~~and~~ near the proposed neighborhood park, and at the main entrance and/or highly visible areas of the retail and hotel uses.

Page 14 Section 2.2.1.7 Utility Connections and Improvements: **REVISE** the last word in the paragraph as follows:

Under either option, the project would utilize existing utility connections to the site where feasible and construct new utility service laterals to existing utility service systems (potable water, recycled water, fire protection, sanitary sewer, storm drain, gas, and electric) in Coleman Avenue and Brokaw Road to serve the project. The project also proposes to underground the existing overhead electrical lines along the project site frontage on Brokaw ~~Avenue~~Road.

Page 44 Section 3.3.2.2 Cumulative Contribution to Non-Attainment Criteria Pollutant Emissions: **REVISE** Table 3.3-3 Summary of Daily Project Construction Emissions:

Table 3.3-3: Summary of Daily Project Construction Emissions				
	ROG	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
	(pounds per day)			
Average Daily Emissions	23.6~~24.8~~	46.8~~45.5~~	1.9	1.8
BAAQMD Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	**No**	**No**	**No**	**No**

Page 49 Section 3.3.2.4 Exposure of Sensitive Receptors to Pollutant Concentrations; Exposure of Sensitive Receptors from Project Construction Activity; Impacts to Off-Site Sensitive Receptors: **REVISE** the paragraph discussion as follows:

A review of the project area did not reveal any sensitive receptors within 1,000 feet of the project site. The nearest off-site sensitive receptor is located approximately 1,139 feet from the project site. A community health risk assessment of project construction activities under Option 2 at this nearby receptor was completed and included in Appendix B. The results of the assessment indicate the maximum excess cancer risk would be 0.7 in one million, maximum modeled annual $PM_{2.5}$ concentration would be 0.005 $\mu g/m^3$, and the maximum computed Health Index (HI) based on DPM concentration would be 0.001, all of which are below the BAAQMD significance thresholds of 10 in one million, 0.3 $\mu g/m^3$, and 1.0 HI, respectively. In addition, the health risk from project construction activities is greatest for receptors closest to the construction (i.e., on-site receptors). The health risk analysis for future on-site sensitive receptors from project construction activities found the implementation of mitigation measures MM AIR-1.1 and -1.2 would reduce the construction health risk to below BAAQMD thresholds of significance (refer to discussion below), which would further reduce emissions to off-site sensitive receptors. For these~~this~~ reasons, project construction activities would not result in significant health risk impacts to off-site sensitive receptors. **(Less than Significant Impact)**

Page 50 Section 3.3.2.4 Exposure of Sensitive Receptors to Pollutant Concentrations; Exposure of Sensitive Receptors to Project Emergency Generator Testing and Maintenance; Impacts to Off-Site Sensitive Receptors: **REVISE** the paragraph discussion as follows:

There are no sensitive receptors within 1,000 feet of the project site. The nearest off-site sensitive receptor is located approximately 1,139 feet from the project site. The health risk from the proposed backup generator is greatest for sources closest to the backup generator (i.e., on-site receptors). The health risk analysis for future on-site sensitive receptors from the proposed backup generator would not result in significant health risk (refer to discussion below); therefore, the health risk from the backup generator to off-site sensitive receptors located over 1,000 feet would also be below BAAQMD thresholds of significance and considered less than significant. For these~~this~~ reasons, the project emergency backup generator under either option would not have a significant health risk to off-site sensitive receptors due to generator testing. **(Less than Significant Impact)**

Page 90 Section 3.8.2.2 Greenhouse Gas Emissions; Operational Emissions; Project With Mitigation: **ADD** the following text to the heading:

Project With Mitigation Measure MM AIR-2.1

Page 92 Section 3.8.2.2 Greenhouse Gas Emissions; Operational Emissions: **REVISE** the text at the top of the page as follows:

Impact GHG-2: The proposed project (Option 2 only), after implementation of ~~all feasible~~ mitigation measure~~s~~ MM AIR-2.1, would result in less than significant GHG emissions. **(Less Than Significant Impact with Mitigation Incorporated)**

Mitigation Measure: The project (Option 1 only) proposes to implement the following mitigation measure to reduce operational GHG emissions to a less than significant level:

MM GHG-1.1: Under Option 1 only, the project proponent shall prepare and implement a GHG Reduction Plan to offset the project-related incremental increase of greenhouse gas emissions resulting in the exceedance of the significance threshold of 2.6 $MTCO_2e$/year/service population. Refinement of the estimated GHG emissions from project Option 1 shall be completed as part of the GHG Reduction Plan in order to reflect the most current and accurate data available regarding the project's estimated emissions (including emission rates). The GHG Reduction Plan shall include the implementation of a qualifying TDM program to reduce mobile GHG emissions. Additional offsets and reductions may include, but are not limited to, the following:

- Construct on-site or fund off-site carbon sequestration projects (such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted). If project Option 1 develops an off-site project, it must be registered with the Climate Action Reserve or otherwise

approved by BAAQMD in order to be used to offset project Option 1 emissions; and/or

- Purchase of carbon credits to offset project Option 1 annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB or BAAQMD. The preference for offset carbon credit purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by the City.

Implementation of MM AIR-2.1 and MM GHG-1 would reduce project Option 1 GHG emissions impact to a less than significant level by reducing project VMT-related GHG emissions and implementing a GHG Reduction Plan that would offset and/or reduce GHG emissions to below the significance threshold. **(Less than Significant Impact with Mitigation Incorporated)**

~~While the project includes features to reduce GHG emissions, Option 1 would exceed the 2.6 MT of CO_2e per year per service population threshold needed to achieve the state's 2030 target. Option 1's GHG emissions, therefore, are considered significant unavoidable.~~ **~~(Significant Unavoidable Impact)~~**

Page 94 Section 3.8.2.4 Cumulative Impacts: **REVISE** the discussion as follows:

Past, present, and future development projects worldwide contribute to global climate change. No single project is sufficient in size to, by itself, change the global average temperature. Therefore, due to the nature of GHG impacts, a significant project impact is a significant cumulative impact. As discussed in Section 3.8.2.2, the ~~Option 1 only~~ project would not generate significant levels of GHG emissions with the implementation of mitigation measures MM AIR-2.1 and MM GHG-1.1 (Option 1 only). ~~Option 1, therefore, would result in significant cumulative GHG emissions (refer to Impact GHG-1).~~

Impact C-GHG-1: The proposed project (both options), with the implementation of mitigation measures MM AIR-2.1 and MM GHG-1.1 (Option 1 only) would not generate significant cumulative GHG emissions. **(Less than Significant ~~Unavoidable~~ Cumulative Impact with Mitigation Incorporated)**

Page 94 Section 3.8.3 Conclusion: **REVISE** the text as follows:

Impact GHG-1: The proposed project (Option 1 only), with the implementation of MM AIR-2.1 and GHG-1.1, would not generate significant GHG emissions. **(Less than Significant ~~Unavoidable~~ Impact with Mitigation Incorporated)**

Impact GHG-2: The proposed project (Option 2 only), after implementation of ~~all feasible~~ mitigation measure~~s~~ MM AIR-2.1, would result in less than significant GHG emissions. **(Less than Significant Impact with Mitigation Incorporated)**

The proposed project (under either option) would not result in other significant GHG impacts (i.e., conflicts with applicable plan, policy, or regulation adopted to reduce GHG emissions). **(Less than Significant Impact)**

Impact C-GHG-1: The proposed project (both options), with the implementation of mitigation measures MM AIR-2.1 and MM GHG-1.1 (Option 1 only) would not generate significant cumulative GHG emissions. **(Less than Significant ~~Unavoidable~~ Cumulative Impact with Mitigation Incorporated)**

The proposed project (under either option) would not result in other significant cumulative GHG impacts (i.e., conflicts with applicable plan, policy, or regulation adopted to reduce GHG emissions). **(Less than Significant Cumulative Impact)**

Page 98 Section 3.9.2.3 Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials: **REVISE** mitigation measure MM HAZ-1.1 as follows:

MM HAZ-1.1: The project shall develop and implement a Site Management Plan (SMP) that outlines the measures required to mitigate potential risks (including soil vapor intrusion) to construction workers, future occupants, and the environment from potential exposure to hazardous substances that may be encountered during soil intrusive or construction activities on-site. As part of the SMP, the requirements of a worker health and safety plan shall be outlined ~~be prepared that identifies procedures~~ to address potential hazards to construction workers and off-site receptors that may result from construction activities. Each contractor shall be required to develop their own site-specific health and safety plan to protect their workers.

The SMP shall also identify all wells on-site and identify measures to protect and/or abandon existing remediation systems, groundwater monitoring wells, and soil vapor monitoring wells. All wells to be abandoned shall be permitted through the SCVWD.

The SMP prepared as stipulated above was submitted and approved by ~~shall be submitted to the City and the~~ RWQCB in May 2016. This approved SMP was submitted to the City and a copy~~for approval prior to commencement of construction activities. A draft of the SMP~~ is included in Appendix E of this EIR.

Page 181 Section 3.17.2.3 Existing Plus Project Conditions, Existing Plus Project Intersection Levels of Service: **DELETE** the following text from first paragraph of mitigation measure MM TRAN-1.1:

MM TRAN-1.1: 1. Coleman Avenue/Brokaw Road (City of Santa Clara) – This intersection is under the jurisdiction of the City of Santa Clara. The improvement includes changing the signal for Brokaw Road (the east and west legs of this intersection) from protected left-turn phasing to split phase, adding a shared through/left turn lane to the east and west approaches within the existing right-of-way, changing the existing shared through/right-turn lanes to right-turn only lanes on the east and west approaches, changing the eastbound right-turn coding from "include" to "overlap" indicating that eastbound right turns would be able to turn right on red, prohibiting U-turns on northbound Coleman Avenue, and adding a third southbound through lane on Coleman Avenue ~~by removing the pork chop island, squaring off the corner~~, and restriping to provide exclusive southbound through and right turn lanes.

Page 181 Section 3.17.2.3 Existing Plus Project Conditions, Existing Plus Project Intersection Levels of Service: **REVISE** the following text from first paragraph of mitigation measure MM TRAN-1.2:

MM TRAN-1.2: 6. De La Cruz Boulevard/Central Expressway (City of Santa Clara/CMP) – This intersection is located in the City of Santa Clara and under the jurisdiction of Santa Clara County. The Comprehensive County Expressway Planning Study identifies the conversion of the single HOV lane in each direction to mixed-flow lanes on Central Expressway as a Tier 1A project.[2] The approved City Place development also identifies adding a second southbound right-turn lane and a third northbound left-turn lane as a mitigation measure.[3] The project shall make a fair-share contribution towards the HOV lane conversion and additional ~~turn lanes~~lane geometry improvements identified as mitigation for the City Place project.

[2] Tier 1A improvements are the County's highest priority improvements in the Comprehensive County Expressway Planning Study and will be fully funded in the near-term.
[3] The City Place project (including identified mitigation) is approved and will be implemented in the near-term.

Page 194 Section 3.17.2.4 Background Plus Project Conditions: **REVISE** mitigation measure MM TRAN-3.2 as follows:

MM TRAN-3.2: 13. Coleman Avenue/I-880 (S) (City of San José/CMP) – This intersection is located in the City of San José and under the jurisdiction of the City of San José. This improvement includes restriping one of the left-turn lanes to a shared left-~~or~~and right-turn lane, effectively creating three right-turn lanes. Three receiving lanes currently exist on the north leg of Coleman Avenue.

Page 194 Section 3.17.2.4 Background Plus Project Conditions: **ADD** the following text to mitigation measure MM TRAN-3.3:

MM TRAN-3.3: 15. Coleman Avenue/Taylor Street (City of San José) – This intersection is located in and under the jurisdiction of the City of San José. The widening of Coleman Avenue to six lanes has been identified as a Downtown Strategy 2000 improvement by the City of San José and is an approved project that will be implemented in the near-term. The project shall make a fair-share contribution towards this improvement.

Page 196 Section 3.17.2.9 Other Impacts, Air Traffic Patterns: **REVISE** the text as follows:

As discussed in *Section 3.9 Hazards and Hazardous Materials,* given the proximity of the site to the Airport, all proposed multi-story structures on-site would need to be filed with the FAA for airspace safety review pursuant to the notification requirements of FAR Part 77~~development on-site may penetrate FAR Part 77 surfaces~~. ~~t~~The project site is located within the Airport Safety Zone TPZ. FAA issuance of a "Determination of No Hazard" for each proposed structure would ensure that the project would not be a potential aviation hazard. For this reason, the project (under either option) would not result in a significant impact to air traffic patterns. **(Less than Significant Impact)**

Page 197 Section 3.17.2.9 Other Impacts, Design Hazards and Emergency Access: **REVISE** the fourth bullet as follows:

A review of site access and circulation was completed and recommendations to facilitate better on-site operation and circulation are detailed in Appendix G and include the following:

- Restrict Driveway 1 to right-in and -out access only;
- Restrict Driveway 2 to right turns only;
- Signalize the intersection of Costco/project Driveway 3 and Brokaw Road;
- Striped ~~a~~ median left-turn lane for Driveway 4; and
- Assign all tandem parking.

Page 205 Section 3.17.2.11 Cumulative Impacts: **REVISE** mitigation measure MM C-TRAN-1.2 as follows:

MM C-TRAN-1.2: 12. Coleman Avenue/I-880 (N) – This intersection is located in the City of San José and under the jurisdiction of the City of San José. This improvement would include restriping one of the left-turn lanes to a shared left- ~~or~~and right-turn lane, effectively creating ~~three~~two right-turn lanes. Three receiving lanes currently exist on the north leg of Coleman Avenue.

Page 219 Section 6.0 Significant Unavoidable Impacts: **DELETE** the following bullet points:

The project under either option, unless noted otherwise, would result in the following significant unavoidable impacts:

- ~~Greenhouse gas emissions (Option 1 only)~~
- Noise (exterior noise, including aircraft noise)
- Transportation (intersection and freeway levels of service)

The project would also result in the following significant unavoidable cumulative impacts:

- ~~Greenhouse gas emissions (Option 1 only)~~
- Transportation (intersection levels of service)
- Utilities (landfill capacity)

Page 220 Section 7.1 Significant Impacts of the Project: **DELETE** the following text in the first paragraph:

As mentioned above, the CEQA Guidelines advise that the alternatives analysis in an EIR should be limited to alternatives that would avoid or substantially lessen any of the significant effects of the project and would achieve most of the project objectives. The project has significant unavoidable impacts regarding ~~GHG emissions (Option 1 only),~~ noise (exterior noise, including aircraft noise)~~,~~ and transportation (intersection and freeway). The project would also have significant unavoidable cumulative ~~GHG emissions (Option 1 only),~~ transportation (intersection levels of service)~~,~~ and utilities (landfill) impacts.

Page 224 Section 7.5.1.2 No Project/Development Alternative; Comparison of Environmental Impacts: **REVISE** the last paragraph in this section as follows:

While the No Project/Development Alternative would result in lower total GHG emissions than the proposed project (approximately 7,018 MT/year compared to 12,150 MT/year for Option 1, which is the project option that would result in the greater~~a significant~~ GHG per service population rate~~impact~~), the No Project Development Alternative is less dense and would result in greater GHG emissions per service population than the proposed project (see Table 7.5-1). The No

Project/Development Alternative would result in approximately 5.2 MT of CO2 per service population per year, which is greater than Option 1's 2.9 MT of CO2 per service population per year and also exceeds the 2.6 MT of CO2 per service population per year threshold identified in Section 3.8. For this reason, the No Project/Development Alternative would have a greater GHG emissions impact than the proposed project.

Page 228 Table 7.5-2 Summary of Project and Project Alternative Impacts: **REVISE** the table as follows:

Table 7.5-2: Summary of Project and Project Alternative Impacts

Impacts	Proposed Project	No Project Alternatives		Reduced Development Alternative
		No Development	Development	
Aesthetics	LTS	**NI**	**LTS**	**LTS**
Agricultural and Forestry Resources	NI	NI	NI	NI
Air Quality				
• Construction-Related Air Pollutants	SM	**NI**	**SM**	**SM**
• Operational Air Pollutant Emissions	LTS/SM*	**NI**	**LTS**	**LTS**
• Cumulative Operational Air Pollutant Emissions	SM	**NI**	**LTS**	**LTS**
Biological Resources (Nesting Birds)	SM	**NI**	SM	SM
Cultural Resources	SM	**NI**	SM	SM
Energy				
• Electricity and Natural Gas	LTS	**NI**	**LTS**	**LTS**
• Gasoline	LTS	**NI**	**LTS**	**LTS**
Geology and Soils	LTS	NI	LTS	LTS
Greenhouse Gas Emissions				
• Operational GHG Emissions	LTS/~~SU~~SM‡	**NI**	S<u>M</u>~~U~~	LTS
• Cumulative GHG Emissions	LTS/~~SU~~SM‡	**NI**	S<u>M</u>~~U~~	LTS
Hazards and Hazardous Materials	SM	**NI**	SM	SM
Hydrology and Water Quality	LTS	**NI**	LTS	LTS
Land Use	LTS	**NI**	**LTS**	LTS
Mineral Resources	NI	NI	NI	NI
Noise and Vibration				
• Aircraft noise	SU	**NI**	SU	SU
• Construction related noise	SM	**NI**	**SM**	**SM**
Population and Housing	LTS	**NI**	**LTS**	**LTS**

Table 7.5-2: Summary of Project and Project Alternative Impacts				
Impacts	**Proposed Project**	**No Project Alternatives**		**Reduced Development Alternative**
		No Development	**Development**	
Public Services	LTS	**NI**	**LTS**	**LTS**
Transportation/Traffic				
• Freeway Impacts	SU	**NI**	**LTS**	**LTS**
• Intersection LOS	SM	**NI**	**LTS**	**LTS**
• Cumulative Intersection LOS	SU	**NI**	**LTS**	**LTS**
Utilities and Service Systems				
• Other utilities	LTS	**NI**	**LTS**	**LTS**
• Cumulative solid waste	SU	**NI**	**SU**	**SU**
Meets Applicant's Objectives?	Yes	No	Partially	Partially
Meets City's Objectives?	Yes	No	No	Partially

Notes: SU = Significant unavoidable impact; SM = Significant impact, but can be mitigated to a less than significant level; LTS = Less than significant impact; and NI = No impact.

* Option 1 would result in LTS operational air pollutant emissions and Option 2 would result in SM operational air pollutant emissions.

† Option 2 would result in LTS operational and cumulative GHG emissions and Option 1 would result in SM~~SU~~ operational and cumulative GHG emissions.

Bold text indicates being environmentally superior to the proposed project.

Appendix B **ADD** the following supplemental memos at the end of this appendix:

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www.illingworthrodkin.com *illro@illingworthrodkin.com*

M E M O

Date: July 24, 2018

To: **Kristy Weis**
David J. Powers and Associates

From: James A. Reyff
Illingworth & Rodkin, Inc.
1 Willowbrook Court, Suite 120
Petaluma, CA 94954

RE: Gateway Crossings, Coleman Brokaw I&R Job#16-075

SUBJECT: Updated Construction Community Risk Modeling – Off-Site Receptors

This memo addresses community risk impacts associated with project construction activities at the closest existing sensitive receptors. This memo is based on unmitigated construction emissions.

Illingworth & Rodkin, Inc. (I&R) completed an Air Quality Assessment and supplemental memos for the Gateway Crossings project in September 2017, January, and March 2018. I&R has prepared an additional memo to update the construction emissions modeling completed in the September report to reflect the development of up to 1,600 residential units, 10,400 square feet of retail and 225 hotel room along with the associated parking facilities using the refined construction equipment information provided by the project applicant. The modeled emissions from that exercise were used in this assessment.

The closest sensitive receptors to the project site are just over 1,000 feet southwest of the closest project boundary. Figure 1 shows the location of these receptors, relative to the proposed project. Construction emissions and dispersion modeling were conducted in the same manner as the modeling presented in the Air Quality Assessment with updates based on the emissions modeling described above. Results of this assessment are presented in Table 1. Cancer risk, annual PM2.5 concentrations and non-cancer hazards (expressed as a Hazard Index) are well below the significance thresholds for community risk. Attachment 1 includes the calculation and modeling summary along with a wind rose that depicts the wind conditions for San Jose International Airport, based on the hourly wind data used in the modeling.

Figure 1 Sensitive Receptors and Project Site

Table 1 Maximum Impacts at Construction MEI Location

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM (µg/m³)	Maximum Concentrations: Fugitive PM2.5 (µg/m³)	Cancer Risk (per million): Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m³)
2018	0.0015	0.0008	0.27	0.004	0.000	0.002
2019	0.0016	0.0009	0.27	0.005	0.000	0.003
2020	0.0030	0.0017	0.08	0.009	0.001	0.005
2021	0.0002	0.0000	0.01	0.001	0.000	0.000
2022	0.0026	0.0022	0.07	0.007	0.001	0.005
2023	0.0003	0.0000	0.01	0.001	0.000	0.000
2024	0.0007	0.0005	0.02	0.002	0.000	0.001
2025	0.0002	0.0000	0.01	0.001	0.000	0.000
Maximum	0.0030	0.0022	-	-	0.001	0.005
Total	-	-	0.7	0.03	-	-

Attachment

Gateway Crossing, Santa Clara, California

DPM Emissions and Modeling Emission Rates

Construction Year	Construction Area	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2018	Phase 1	0.2653	PH1_DPM	530.6	0.16152	2.04E-02	24,752	8.22E-07
2019	Phase 1	0.0421	PH1_DPM	84.2	0.02563	3.23E-03	24,752	1.30E-07
	Phase 2	0.2299	PH2_DPM	459.8	0.13997	1.76E-02	17,076	1.03E-06
2020	Phase 2	0.0967	PH2_DPM	193.4	0.05887	7.42E-03	17,076	4.34E-07
	Phase 3	0.2123	PH3_DPM	424.6	0.12925	1.63E-02	13,936	1.17E-06
2021	Phase 3	0.0162	PH3_DPM	32.4	0.00986	1.24E-03	13,936	8.92E-08
2022	Phase 4	0.2221	PH4_DPM	444.2	0.13522	1.70E-02	18,928	9.00E-07
2023	Phase 4	0.0291	PH4_DPM	58.2	0.01772	2.23E-03	18,928	1.18E-07
2024	Phase 5	0.1757	PH5_DPM	351.4	0.10697	1.35E-02	7,182	1.88E-06
2025	Phase 5	0.0592	PH5_DPM	118.4	0.03604	4.54E-03	7,182	6.32E-07
Total		***1.3486***		***2697.2***				

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

PM2.5 Fugitive Dust Emissions for Modeling

Construction Year	Construction Area	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2018	Phase 1	PH1_FUG	0.1511	302.2	0.09199	1.16E-02	24,752	4.68E-07
2019	Phase 1	PH1_FUG	0.0007	1.4	0.00044	5.52E-05	24,752	2.23E-09
	Phase 2	PH2_FUG	0.1502	300.4	0.09145	1.15E-02	17,076	6.75E-07
2020	Phase 2	PH2_FUG	0.0026	5.3	0.00161	2.03E-04	17,076	1.19E-08
	Phase 3	PH3_FUG	0.1518	303.6	0.09242	1.16E-02	13,936	8.36E-07
2021	Phase 3	PH3_FUG	0.0005	1.0	0.00030	3.84E-05	13,936	2.75E-09
2022	Phase 4	PH4_FUG	0.1950	390.0	0.11872	1.50E-02	18,928	7.90E-07
2023	Phase 4	PH4_FUG	0.0013	2.6	0.00080	1.01E-04	18,928	5.35E-09
2024	Phase 5	PH5_FUG	0.1156	231.2	0.07038	8.87E-03	7,182	1.23E-06
2025	Phase 5	PH5_FUG	0.0030	6.0	0.00182	2.29E-04	7,182	3.19E-08
Total			***0.7719***	***1543.7***				

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

Gateway Crossing, Santa Clara, California - Summary of Health Impacts

Maximum Impacts at Construction MEI Location

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2018	0.0015	0.0008	0.27	0.004	0.000	0.002
2019	0.0016	0.0009	0.27	0.005	0.000	0.003
2020	0.0030	0.0017	0.08	0.009	0.001	0.005
2021	0.0002	0.0000	0.01	0.001	0.000	0.000
2022	0.0026	0.0022	0.07	0.007	0.001	0.005
2023	0.0003	0.0000	0.01	0.001	0.000	0.000
2024	0.0007	0.0005	0.02	0.002	0.000	0.001
2025	0.0002	0.0000	0.01	0.001	0.000	0.000
Maximum	0.0030	0.0022	-	-	0.001	0.005
Total	-	-	0.7	0.03	-	-

Gateway Crossing, Santa Clara, California - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction - Unmitigated
Impacts at Off-Site Receptors-1.5 meter

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

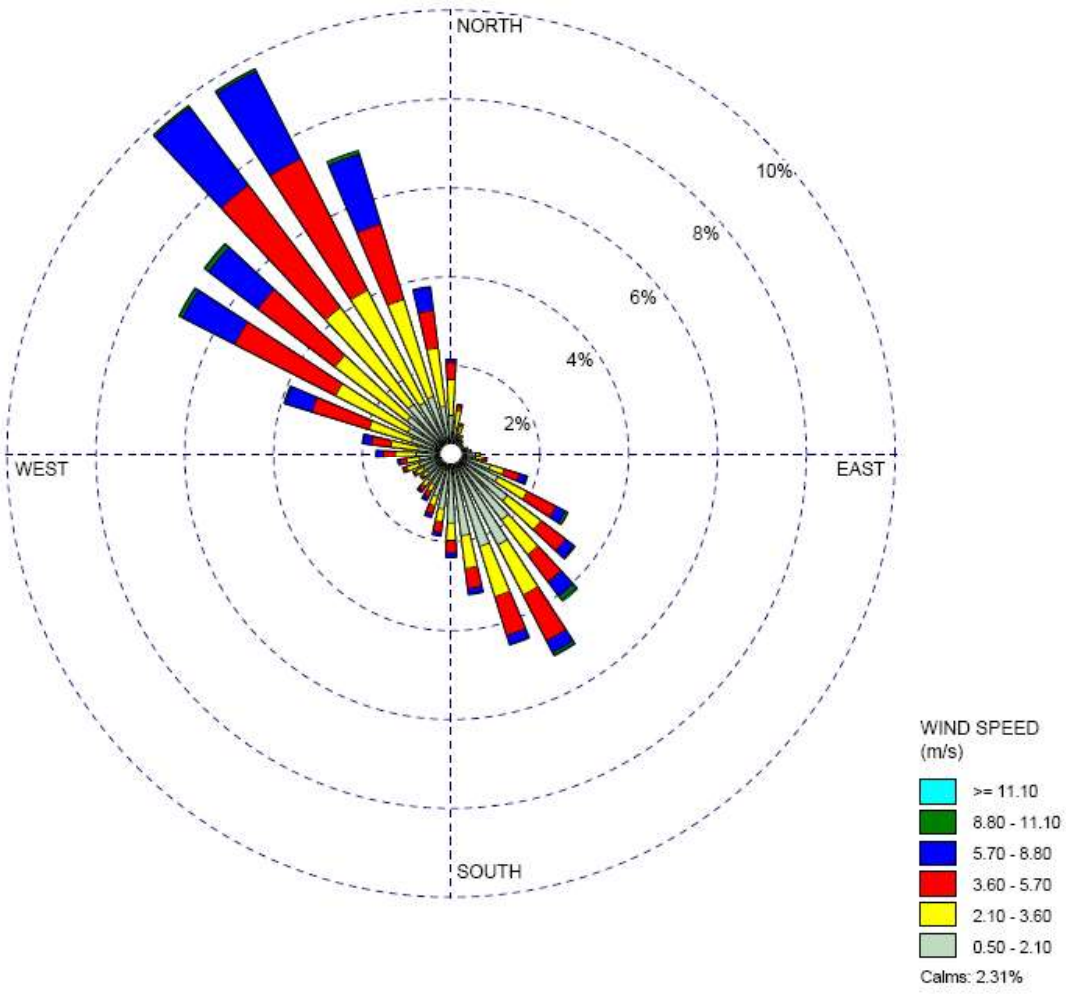
Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					
							Modeled					
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2018	0.0015	10	0.02	2018	0.0015	-	-		
1	1	0 - 1	2018	0.0015	10	0.25	2018	0.0015	1	0.004	0.0008	0.002
2	1	1 - 2	2019	0.0016	10	0.27	2019	0.0016	1	0.005	0.0009	0.003
3	1	2 - 3	2020	0.0030	3	0.08	2020	0.0030	1	0.009	0.0017	0.005
4	1	3 - 4	2021	0.0002	3	0.01	2021	0.0002	1	0.001	0.0000	0.000
5	1	4 - 5	2022	0.0026	3	0.07	2022	0.0026	1	0.007	0.0022	0.005
6	1	5 - 6	2023	0.0003	3	0.01	2023	0.0003	1	0.001	0.0000	0.000
7	1	6 - 7	2024	0.0007	3	0.02	2024	0.0007	1	0.002	0.0005	0.001
8	1	7 - 8	2025	0.0002	3	0.01	2025	0.0002	1	0.001	0.0000	0.000
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**0.73**				**0.03**		

* Third trimester of pregnancy

WIND ROSE PLOT:
San Jose Airport
2006 - 2010

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:		
	Start Date: 1/1/2006 - 00:00 **End Date: 12/31/2010 - 23:00**		
	CALM WINDS:	TOTAL COUNT:	
	2.31%	**43648 hrs.**	
	AVG. WIND SPEED:	DATE:	PROJECT NO.:
	3.22 m/s	**1/20/2015**	

WRPLOT View - Lakes Environmental Software

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M E M O

Date: July 9, 2018

To: **Kristy Weis**, David J. Powers & Associates, Inc.
Amy Wang, David J. Powers & Associates, Inc.

From: **James A. Reyff**
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1 Willowbrook Court, Suite 120
Petaluma, CA 94954

RE: **Gateway Crossings, Coleman Brokaw** I&R Job#16-075

SUBJECT: **Updated Construction and Construction with Operation Modeling**

Illingworth & Rodkin, Inc. (I&R) completed an air quality assessment and supplemental memos for the Gateway Crossings project in September, January, and March 2018. I&R has prepared this additional memo to update the construction emissions modeling completed in the September report to reflect the development of up to 1,600 residential units, 10,400 square feet of retail and 225 hotel room along with the associated parking facilities using the refined construction equipment information provided by the project applicant. All other aspects of the previous modeling and analyses completed for the previous assessment and memos are current. This memo also addresses the overlapping construction and operational emissions.

Updated Construction Period Emissions

An updated phase-specific construction build-out scenario, that includes the development of up to 1,600 residential units, 10,400 square feet of retail and 225 hotel room along with the associated parking facilities. The land use assumptions, equipment list and schedule were developed based on updated information provided by the project applicant. Emissions from construction of each phase were modeled separately. The proposed project land uses for each phase were input into CalEEMod as follows.

Phase 1:

- 317 dwelling units were entered as "Apartments-Mid Rise"
- 495 spaces were entered as "Enclosed Parking with Elevator"
- 4 spaces as "Parking Lot," and
- 5,300 sf as "Strip Mall"

In addition, 23,542 cubic yards (cy) of soil off-haul is anticipated during the grading phase and hauling of 800 cy of asphalt is anticipated during the paving phase of Phase 1.

Phase 2:

- 399 dwelling units were entered as "Apartments-Mid Rise"
- 652 spaces were entered as "Enclosed Parking with Elevator," and
- 7 spaces as "Parking Lot"

In addition, 19,496 cy of soil off-haul is anticipated during the grading phase and hauling of 800 cy of asphalt is anticipated during the paving phase and was entered into the model for Phase 2.

Phase 3:

- 371 dwelling units were entered as "Apartments-Mid Rise"
- 563 spaces were entered as "Enclosed Parking with elevator"
- 6 spaces as "Parking Lot," and
- 4.900 sf as "Strip Mall"

In addition, 20,919 cubic yards of soil off-haul is anticipated during the grading phase and hauling of 800 cy of asphalt is anticipated during the paving phase and was entered into the model for Phase 3.

Phase 4:

- 513 dwelling units were entered as "Apartments-Mid Rise"
- 764 spaces were entered as "Enclosed Parking with elevator," and
- 4 spaces as "Parking Lot"

In addition, 18,459 cubic yards of soil off-haul is anticipated during the grading phase and hauling of 800 cy of asphalt is anticipated during the paving phase and was entered into the model for Phase 4.

Phase 5:

- 225 rooms were entered as "Hotel"
- 339 spaces were entered as "Enclosed Parking with elevator," and
- 5,200 sf as "Strip Mall"

In addition, 7.585 cubic yards (cy) of soil off-haul is anticipated during the grading phase and hauling of 800 cy of asphalt is anticipated during the paving phase and was entered into the model for Phase 5. The project area was entered as 21.4 acres for each phase.

The project would be built out over a period of approximately 6 to 8 years beginning in October 2018, or an approximate 1,408 to 1,777 construction workdays (assuming an average 260 construction days per year). The construction schedule provided by the applicant makes the following assumptions:

- Phase 1 would be built over a period of 12 months beginning in October 2018.
- Phase 2 would be built over a period of 12 months beginning in July 2019.

- Phase 3 would be built over a period of 12 months beginning in April 2020.
- Phase 4 would be built over a period of 14 months beginning in March 2022.
- Phase 5 would be built over a period of 19 months beginning in January 2024.

Average daily emissions were computed for each phase by dividing the total construction emissions by the number of construction days. Table 1 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 2, estimated the construction period emissions would not exceed the BAAQMD significance thresholds. *Attachment 1* includes the CalEEMod output worksheets and construction assumptions.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are implemented to reduce these emissions. *Mitigation Measure 1 would implement BAAQMD-recommended best management practices*.

Table 1. Construction Period Emissions by Phase

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Phase 1 (tons)	2.86	6.97	0.31	0.29
Phase 2 (tons)	3.63	7.37	0.33	0.31
Phase 3 (tons)	3.26	5.65	0.23	0.22
Phase 4 (tons)	4.42	6.64	0.26	0.24
Phase 5 (tons)	2.47	6.29	0.24	0.22
Total construction emissions (tons)	16.64 tons	32.9 tons	1.37 tons	1.28 tons
Average daily emissions (pounds)[1]	**23.6 lbs./day**	**46.8 lbs./day**	**1.9 lbs./day**	**1.8 lbs./day**
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	**No**	**No**	**No**	**No**
Notes: [1]Assumes 1,408 workdays.				

Mitigation Measure 1: **Include basic measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. 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.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. 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.

6. 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.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The project shall develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 92 percent reduction in PM_{10} exhaust emissions or more. The plan should include, but it not limited to, one or more of the following:

9. All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days continuously shall meet, at minimum U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent and include the use of equipment that includes CARB-certified Level 3 diesel particulate matter filters[1].

10. Use of alternatively-fueled equipment (i.e., non-diesel), such as electric, biodiesel, or LPG for example, would meet this requirement.

11. Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce community risk impacts to less than significant.

[1] See http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm for more information.

Effectiveness of Mitigation Measure 1

Implementation of Mitigation Measure 1 is considered to include all recommended basic control measures listed by BAAQMD and reduce exhaust emissions by 5 percent. This measure would considerably reduce on-site diesel exhaust emissions from off-road equipment operation.

Mitigation Measure 2: Reduce VMT/vehicle trips by at least 20 percent.

> *The project shall develop a plan that would reduce VMT/vehicle trips by 20 percent, of which would include a Transportation Demand Management (TDM) that would be designed to reduce VMT/vehicle trips by at least 10 percent.*

Mitigation Measure 3: Include low VOC coatings to reduce ROG emissions.

> *The project shall use low volatile organic compound or VOC (i.e., ROG) coatings, that are below current BAAQMD requirements (i.e., Regulation 8, Rule 3: Architectural Coatings), for at least 50 percent of all residential and nonresidential interior and exterior paints. This includes all architectural coatings applied during both construction and reapplications throughout the project's operational lifetime. At least 50 percent of coatings applied must meet a "super-compliant"" VOC standard of less than 10 grams of VOC per liter of paint. For reapplication of coatings during the project's operational lifetime, the Declaration of Covenants, Conditions, and Restrictions shall contain a stipulation for low VOC coatings to be used.*

Effectiveness of Mitigation Measure 2 and 3

Implementation of Mitigation Measure 2 is considered to only feasibly reduce the number of new traffic trips by about 8 percent, assuming weekend trips are not affected. Since 80 percent of the ROG emissions are associated with consumer product use and maintenance painting of individual units and the buildings, total ROG emissions would only be reduced by 2 percent from this mitigation measure. Mitigation Measure 2 would reduce ROG emissions by 0.19 tons per year.

Mitigation Measure 3 would reduce ROG emissions from architectural coatings by about 40 percent. Architectural coatings make up about 11.5 percent of the project ROG emissions, so this would equate to a reduction of 4.6 percent of ROG emissions. Mitigation Measure AQ-3 would reduce ROG emissions by 0.54 tons per year.

The combination of Mitigation Measure 2 and 3 would reduce ROG emissions by 0.73 tons per year. This would reduce the net project ROG emissions from 10.22 to 9.49 tons per year or from 56.0 to 52.0 pounds per day. ROG emissions would be reduced below the annual and average daily thresholds for operational emissions. The impact would be considered *Less than Significant with Mitigation*.

Mitigation measures 1 to 3 above are the same mitigation measures identified for the project in the air quality assessment prepared in September, 2017.

Supporting Documents

Attachment 1: Construction Schedule, CalEEMod Output Files

Project Name:		**Gateway Crossings (Coleman/Brokaw) Phase 1**								
	Project Size	317	**Dwelling Units**	21.4 ac (includes site)	**total project acres disturbed**					
		284,779	**s.f. residential**	5,300	**s.f. retail**					
		402,400	**s.f. conditioned area**	n/a	**s.f. other, specify:**					
		7,000	**s.f. other, specify:**	Amenity			**Complete ALL Portions in Yellow**			
		224,451	**s.f. parking garage**	495	**spaces**					
		n/a	**s.f. parking lot**	4	**spaces**					
	Construction Hours	7	**am to**	4	**pm**					

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Comments
	Demolition	**Start Date:**	**e.g., 9/1/2016**	**Total phase:**			**Overall Import/Export Volumes**
		End Date:					
	Concrete/Industrial Saws	81	0.73			#DIV/0!	**Demolition Volume**
	Excavators	162	0.38			#DIV/0!	Square footage of buildings to be demolished
	Rubber-Tired Dozers	255	0.4			#DIV/0!	(*or* total tons to be hauled)
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	**?** square feet *or*
							? Hauling volume (tons)
	Site Preperation	**Start Date:**	**10/1/2018**	**Total phase:**	**20**		Any pavement demolished and hauled? **?** **tons**
		End Date:	**11/1/2018**				
3	Scrapers	361	0.48	8	20	8	
1	Skid Steer Loaders	64	0.37	8	20	8	
2	Graders	174	0.41	8	20	8	
2	Rubber Tired Dozers	255	0.4	8	20	8	
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8	
	Grading / Excavation	**Start Date:**	**11/1/2018**	**Total phase:**	**40**		
		End Date:	**1/1/2019**				**Soil Hauling Volume**
3	Scrapers	361	0.48	8	40	8	
2	Excavators	162	0.38	8	40	8	Export volume = **23,542** cubic yards?
2	Graders	174	0.41	8	40	8	Import volume = **?** cubic yards?
1	Rubber Tired Dozers	255	0.4	8	40	8	
1	Tractors/Loaders/Backhoes	97	0.37	8	40	8	
2	Rollers	80	0.38	8	40	8	
1	Skid Steer Loaders	64	0.37	8	40	8	
1	Sweepers	64	0.46	8	40	8	
	Trenching	**Start Date:**	**12/1/2018**	**Total phase:**	**20**		
		End Date:	**1/1/2019**				
1	Tractor/Loader/Backhoe	97	0.37	8	20	8	
2	Excavators	162	0.38	8	20	8	
2	Loaders	97	0.37	8	20	8	
1	Rough Terrain Forklifts	100	0.4	8	20	8	
1	Skid Steer Loaders	64	0.37	8	20	8	
	Building - Exterior	**Start Date:**	**1/1/2019**	**Total phase:**	**100**		**Cement Trucks? ?** **Total Round-Trips**
		End Date:	**6/1/2019**				
1	Cranes	226	0.29	8	100	8	Electric? (Y/N) ___ Otherwise assumed diesel
4	Forklifts	89	0.2	8	100	8	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	100	8	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	8	100	8	otherwise, assume diesel generator
5	Welders	46	0.45	8	100	8	
3	Boom/Aerial Lifts	62	0.31	8	100	8	
3	Other Construction Equipment	171	0.42	8	100	8	
	Building - Interior/Architectural Coating	**Start Date:**	**5/1/2019**	**Total phase:**	**100**		
		End Date:	**10/1/2019**				
2	Air Compressors	78	0.48	8	40	3.2	
1	Aerial Lift	62	0.31	8	100	8	
1	Cranes	226	0.29	8	50	4	
2	Forklifts	89	0.2	8	100	8	
	Paving	**Start Date:**	**7/1/2019**	**Total phase:**	**40**		
		Start Date:	**9/1/2019**				
1	Cement and Mortar Mixers	9	0.56	8	20	4	
1	Pavers	125	0.42	8	40	8	**Asphalt? 800 cubic yards or ____ round trips?**
1	Paving Equipment	130	0.36	8	40	8	
2	Rollers	80	0.38	8	40	8	
1	Tractors/Loaders/Backhoes	97	0.37	8	20	4	
1	Sweepers	64	0.46	8	40	8	

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate
Modify horepower or load factor, as appropriate

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

Project Name:		**Gateway Crossings (Coleman/Brokaw) Phase 2**								
	Project Size	399	**Dwelling Units**	n/a	**total project acres disturbed**					
		357,481	**s.f. residential**	n/a	**s.f. retail**					
		514,286	**s.f. conditioned area**	n/a	**s.f. other, specify:**					
		8,900	**s.f. other, specify:**	Amenity			**Complete ALL Portions in Yellow**			
		259,029	**s.f. parking garage**	652	**spaces**					
		n/a	**s.f. parking lot**	7	**spaces**					
	Construction Hours	7	**am to**	4	**pm**					
Qty	**Description**	**HP**	**Load Factor**	**Hours/day**	**Total Work Days**	**Avg. Hours per day**	**Comments**			
	Demolition	**Start Date:**	**e.g., 9/1/2016**	**Total phase:**			**Overall Import/Export Volumes**			
		End Date:								
	Concrete/Industrial Saws	81	0.73			#DIV/0!	**Demolition Volume**			
	Excavators	162	0.38			#DIV/0!	Square footage of buildings to be demolished			
	Rubber-Tired Dozers	255	0.4			#DIV/0!	(*or* total tons to be hauled)			
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	**_?_** square feet *or*			
							_?_ Hauling volume (tons)			
	Site Preperation	**Start Date:**	**7/1/2019**	**Total phase:**	**20**		Any pavement demolished and hauled? **_?_ tons**			
		End Date:	**8/1/2019**							
3	Scrapers	361	0.48	8	20	8				
1	Skid Steer Loaders	64	0.37	8	20	8				
2	Graders	174	0.41	8	20	8				
2	Rubber Tired Dozers	255	0.4	8	20	8				
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8				
	Grading / Excavation	**Start Date:**	**8/1/2019**	**Total phase:**	**40**					
		End Date:	**10/1/2019**				**Soil Hauling Volume**			
3	Scrapers	361	0.48	**8**	40	8				
2	Excavators	162	0.38	8	40	8	Export volume = **19,496** cubic yards?			
2	Graders	174	0.41	8	40	8	Import volume = **_?_** cubic yards?			
1	Rubber Tired Dozers	255	0.4	8	40	8				
1	Tractors/Loaders/Backhoes	97	0.37	8	40	8				
2	Rollers	80	0.38	8	40	8				
1	Skid Steer Loaders	64	0.37	8	40	8				
1	Sweepers	64	0.46	8	40	8				
	Trenching	**Start Date:**	**9/1/2019**	**Total phase:**	**20**					
		End Date:	**10/1/2019**							
1	Tractor/Loader/Backhoe	97	0.37	8	20	8				
2	Excavators	162	0.38	8	20	8				
2	Loaders	97	0.37	8	20	8				
1	Rough Terrain Forklifts	100	0.4	8	20	8				
1	Skid Steer Loaders	64	0.37	8	20	8				
	Building - Exterior	**Start Date:**	**10/1/2019**	**Total phase:**	**100**		**Cement Trucks? _?_ Total Round-Trips**			
		End Date:	**3/1/2020**							
1	Cranes	226	0.29	8	100	8	Electric? (Y/N) ___ Otherwise assumed diesel			
5	Forklifts	89	0.2	8	100	8	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel			
1	Generator Sets	84	0.74	8	100	8	Or temporary line power? (Y/N) ___			
3	Tractors/Loaders/Backhoes	97	0.37	8	100	8	otherwise, assume diesel generator			
5	Welders	46	0.45	8	100	8				
4	Boom/Aerial Lifts	62	0.31	8	100	8				
5	Other Construction Equipment	171	0.42	**8**	100	8				
Building - Interior/Architectural Coating		**Start Date:**	**2/1/2020**	**Total phase:**	**100**					
		End Date:	**7/1/2020**							
3	Air Compressors	78	0.48	8	40	3.2				
2	Aerial Lift	62	0.31	8	100	8				
1	Cranes	226	0.29	8	50	4				
2	Forklifts	89	0.2	8	100	8				
	Paving	**Start Date:**	**4/1/2020**	**Total phase:**	**40**					
		Start Date:	**6/1/2020**							
2	Cement and Mortar Mixers	9	0.56	8	20	4				
1	Pavers	125	0.42	8	40	8	**Asphalt? 800 cubic yards or ___ round trips?**			
1	Paving Equipment	130	0.36	8	40	8				
2	Rollers	80	0.38	8	40	8				
2	Tractors/Loaders/Backhoes	97	0.37	8	20	4				
1	Sweepers	64	0.46	8	40	8				
Equipment listed in this sheet is to provide an example of inputs				**Add or subtract phases and equipment, as appropriate**						
It is assumed that water trucks would be used during grading				**Modify horepower or load factor, as appropriate**						

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

Project Name:		**Gateway Crossings (Coleman/Brokaw) Phase 3**								
	Project Size	371	**Dwelling Units**	n/a	**total project acres disturbed**					
		325,950	**s.f. residential**	4,900	**s.f. retail**					
		474,275	**s.f. conditioned area**	n/a	**s.f. other, specify:**					
		7,400	**s.f. other, specify:**	Amenity			**Complete ALL Portions in Yellow**			
		225,933	**s.f. parking garage**	563	**spaces**					
		n/a	**s.f. parking lot**	6	**spaces**					
	Construction Hours	7	**am to**	4	**pm**					
Qty	**Description**	**HP**	**Load Factor**	**Hours/day**	**Total Work Days**	**Avg. Hours per day**	**Comments**			
	Demolition	**Start Date:**	**e.g., 9/1/2016**	**Total phase:**			**Overall Import/Export Volumes**			
		End Date:								
	Concrete/Industrial Saws	81	0.73			#DIV/0!	**Demolition Volume**			
	Excavators	162	0.38			#DIV/0!	Square footage of buildings to be demolished			
	Rubber-Tired Dozers	255	0.4			#DIV/0!	(*or* total tons to be hauled)			
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	**_?_** square feet *or*			
							_?_ Hauling volume (tons)			
	Site Preperation	**Start Date:**	**4/1/2020**	**Total phase:**	**20**		Any pavement demolished and hauled? **_?_ tons**			
		End Date:	**5/1/2020**							
3	Scrapers	361	0.48	8	20	8				
1	Skid Steer Loaders	64	0.37	8	20	8				
2	Graders	174	0.41	8	20	8				
2	Rubber Tired Dozers	255	0.4	8	20	8				
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8				
	Grading / Excavation	**Start Date:**	**5/1/2020**	**Total phase:**	**40**					
		End Date:	**7/1/2020**				**Soil Hauling Volume**			
3	Scrapers	361	0.48	**8**	40	8				
2	Excavators	162	0.38	8	40	8	Export volume = **_20,919_** cubic yards?			
2	Graders	174	0.41	8	40	8	Import volume = **_?_** cubic yards?			
1	Rubber Tired Dozers	255	0.4	8	40	8				
1	Tractors/Loaders/Backhoes	97	0.37	8	40	8				
2	Rollers	80	0.38	8	40	8				
1	Skid Steer Loaders	64	0.37	8	40	8				
1	Sweepers	64	0.46	8	40	8				
	Trenching	**Start Date:**	**6/1/2020**	**Total phase:**	**20**					
		End Date:	**7/1/2020**							
1	Tractor/Loader/Backhoe	97	0.37	8	20	8				
2	Excavators	162	0.38	8	20	8				
2	Loaders	97	0.37	8	20	8				
1	Rough Terrain Forklifts	100	0.4	8	20	8				
1	Skid Steer Loaders	64	0.37	8	20	8				
	Building - Exterior	**Start Date:**	**7/1/2020**	**Total phase:**	**100**		**Cement Trucks? _?_ Total Round-Trips**			
		End Date:	**12/1/2020**							
2	Cranes	226	0.29	8	100	8	Electric? (Y/N) ___ Otherwise assumed diesel			
3	Forklifts	89	0.2	8	100	8	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel			
1	Generator Sets	84	0.74	8	100	8	Or temporary line power? (Y/N) ___			
1	Tractors/Loaders/Backhoes	97	0.37	8	100	8	otherwise, assume diesel generator			
4	Welders	46	0.45	8	100	8				
4	Boom/Aerial Lifts	62	0.31	8	100	8				
3	Other Construction Equipment	171	0.42	**8**	100	8				
Building - Interior/Architectural Coating		**Start Date:**	**11/1/2020**	**Total phase:**	**100**					
		End Date:	**4/1/2021**							
2	Air Compressors	78	0.48	8	40	3.2				
2	Aerial Lift	62	0.31	8	100	8				
1	Cranes	226	0.29	8	50	4				
1	Forklifts	89	0.2	8	100	8				
	Paving	**Start Date:**	**1/1/2021**	**Total phase:**	**40**					
		Start Date:	**3/1/2021**							
2	Cement and Mortar Mixers	9	0.56	8	20	4				
1	Pavers	125	0.42	8	40	8	**Asphalt? 800 cubic yards or ____ round trips?**			
1	Paving Equipment	130	0.36	8	40	8				
2	Rollers	80	0.38	8	40	8				
1	Tractors/Loaders/Backhoes	97	0.37	8	20	4				
1	Sweepers	64	0.46	8	40	8				
Equipment listed in this sheet is to provide an example of inputs				**Add or subtract phases and equipment, as appropriate**						
It is assumed that water trucks would be used during grading				**Modify horepower or load factor, as appropriate**						

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

Project Name:	**Gateway Crossings (Coleman/Brokaw) Phase 2**										
	Project Size	513	**Dwelling Units**	n/a	**total project acres disturbed**						
		415,614	**s.f. residential (net rentable)**	n/a	**s.f. retail**						
		605,889	**s.f. conditioned area**	n/a	**s.f. other, specify:**						
		7,439	**s.f. other, specify: amenity**					**Complete ALL Portions in Yellow**			
		314,135	**s.f. parking garage**	764	**spaces**						
		n/a	**s.f. parking lot**	4	**spaces parallel parking**						
	Construction Hours	7	**am to**	6	**pm**						
Qty	**Description**	**HP**	**Load Factor**	**Hours/day**	**Total Work Days**	**Avg. Hours per day**	**Comments**				
	Demolition	**Start Date:**	**e.g., 9/1/2016**	**Total phase:**			**Overall Import/Export Volumes**				
		End Date:									
	Concrete/Industrial Saws	81	0.73			#DIV/0!	**Demolition Volume**				
	Excavators	162	0.38			#DIV/0!	Square footage of buildings to be demolished				
	Rubber-Tired Dozers	255	0.4			#DIV/0!	(*or* total tons to be hauled)				
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	_?_ square feet *or*				
							_?_ Hauling volume (tons)				
	Site Preperation	**Start Date:**	**3/1/2022**	**Total phase:**	**20**		Any pavement demolished and hauled? _?_ **tons**				
		End Date:	**4/1/2022**								
3	Scrapers	361	0.48	8	20	8					
1	Skid Steer Loaders	64	0.37	8	20	8					
2	Graders	174	0.41	8	20	8					
2	Rubber Tired Dozers	255	0.4	8	20	8					
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8					
	Grading / Excavation	**Start Date:**	**4/1/2022**	**Total phase:**	**60**						
		End Date:	**7/1/2022**				**Soil Hauling Volume**				
3	Scrapers	361	0.48	**8**	60	8					
2	Excavators	162	0.38	8	60	8	Export volume = _18,459_ cubic yards?				
2	Graders	174	0.41	8	60	8	Import volume = _?_ cubic yards?				
1	Rubber Tired Dozers	255	0.4	8	60	8					
1	Tractors/Loaders/Backhoes	97	0.37	8	60	8					
2	Rollers	80	0.38	8	60	8					
1	Skid Steer Loaders	64	0.37	8	60	8					
1	Sweepers	64	0.46	8	60	8					
	Trenching	**Start Date:**	**5/1/2022**	**Total phase:**	**40**						
		End Date:	**7/1/2022**								
1	Tractor/Loader/Backhoe	97	0.37	8	40	8					
2	Excavators	162	0.38	8	40	8					
2	Loaders	97	0.37	8	40	8					
1	Rough Terrain Forklifts	100	0.4	8	40	8					
1	Skid Steer Loaders	64	0.37	8	40	8					
	Building - Exterior	**Start Date:**	**6/1/2022**	**Total phase:**	**160**		**Cement Trucks? _?_ Total Round-Trips**				
		End Date:	**2/1/2023**								
1	Cranes	226	0.29	8	120	6	Electric? (Y/N) ___ Otherwise assumed diesel				
4	Forklifts	89	0.2	8	160	8	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel				
1	Generator Sets	84	0.74	8	160	8	Or temporary line power? (Y/N) ___				
1	Tractors/Loaders/Backhoes	97	0.37	8	160	8	otherwise, assume diesel generator				
4	Welders	46	0.45	8	160	8					
3	Boom/Aerial Lifts	62	0.31	8	160	8					
3	Other Construction Equipment	171	0.42	**8**	160	8					
Building - Interior/Architectural Coating		**Start Date:**	**10/1/2022**	**Total phase:**	**140**						
		End Date:	**5/1/2023**								
2	Air Compressors	78	0.48	8	60	3.4285714					
1	Aerial Lift	62	0.31	8	140	8					
1	Cranes	226	0.29	8	80	4.5714286					
1	Forklifts	89	0.2	8	140	8					
	Paving	**Start Date:**	**2/1/2023**	**Total phase:**	**60**						
		Start Date:	**5/1/2023**								
1	Cement and Mortar Mixers	9	0.56	8	40	5.3333333					
1	Pavers	125	0.42	8	60	8	**Asphalt? 800 cubic yards or ____ round trips?**				
1	Paving Equipment	130	0.36	8	60	8					
2	Rollers	80	0.38	8	60	8					
1	Tractors/Loaders/Backhoes	97	0.37	8	40	5.3333333					
1	Sweepers	64	0.46	8	60	8					
Equipment listed in this sheet is to provide an example of inputs				**Add or subtract phases and equipment, as appropriate**							
It is assumed that water trucks would be used during grading				**Modify horepower or load factor, as appropriate**							

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

Project Name: Gateway Crossings (Coleman/Brokaw) Phase 5

Project Size	225	Hotel Room	n/a	total project acres disturbed
	108,622	s.f. Room Area	5,200	s.f. retail (food and beverage)
	182,000	s.f. conditioned area	4,400	s.f. other, specify: fitness/spa, hotel bar
	8,300	s.f. other, specify: meeting rooms, pre-function		
	133,702	s.f. parking garage	339	spaces
	n/a	s.f. parking lot	n/a	spaces parallel parking
Construction Hours	7	am to	4	pm

Complete ALL Portions in Yellow

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Comments
	Demolition	**Start Date:**	**e.g., 9/1/2016**	**Total phase:**			**Overall Import/Export Volumes**
		End Date:					
	Concrete/Industrial Saws	81	0.73			#DIV/0!	**Demolition Volume**
	Excavators	162	0.38			#DIV/0!	Square footage of buildings to be demolished
	Rubber-Tired Dozers	255	0.4			#DIV/0!	(*or* total tons to be hauled)
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	_?_ square feet *or*
							_?_ Hauling volume (tons)
	Site Preperation	**Start Date:**	**1/1/2024**	**Total phase:**	**20**		Any pavement demolished and hauled? _?_ tons
		End Date:	**2/1/2024**				
3	Scrapers	361	0.48	8	20	8	
1	Skid Steer Loaders	64	0.37	8	20	8	
2	Graders	174	0.41	8	20	8	
2	Rubber Tired Dozers	255	0.4	8	20	8	
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8	
	Grading / Excavation	**Start Date:**	**2/1/2024**	**Total phase:**	**20**		
		End Date:	**3/1/2024**				**Soil Hauling Volume**
3	Scrapers	361	0.48	8	20	8	
2	Excavators	162	0.38	8	20	8	Export volume = 7,585 cubic yards?
2	Graders	174	0.41	8	20	8	Import volume = ? cubic yards?
1	Rubber Tired Dozers	255	0.4	8	20	8	
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8	
2	Rollers	80	0.38	8	20	8	
1	Skid Steer Loaders	64	0.37	8	20	8	
1	Sweepers	64	0.46	8	20	8	
	Trenching	**Start Date:**	**2/1/2024**	**Total phase:**	**20**		
		End Date:	**3/1/2024**				
1	Tractor/Loader/Backhoe	97	0.37	8	20	8	
2	Excavators	162	0.38	8	20	8	
2	Loaders	97	0.37	8	20	8	
1	Rough Terrain Forklifts	100	0.4	8	20	8	
1	Skid Steer Loaders	64	0.37	8	20	8	
	Building - Exterior	**Start Date:**	**3/1/2024**	**Total phase:**	**300**		**Cement Trucks? _?_ Total Round-Trips**
		End Date:	**6/1/2025**				
1	Cranes	226	0.29	8	160	4.2666667	Electric? (Y/N) ___ Otherwise assumed diesel
4	Forklifts	89	0.2	8	300	8	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	300	8	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	8	300	8	otherwise, assume diesel generator
4	Welders	46	0.45	8	300	8	
3	Boom/Aerial Lifts	62	0.31	8	200	5.3333333	
3	Other Construction Equipment	171	0.42	8	300	8	
	Building - Interior/Architectural Coating	**Start Date:**	**9/1/2024**	**Total phase:**	**200**		
		End Date:	**7/1/2025**				
2	Air Compressors	78	0.48	8	60	2.4	
1	Aerial Lift	62	0.31	8	120	4.8	
1	Cranes	226	0.29	8	60	2.4	
1	Forklifts	89	0.2	8	120	4.8	
	Paving	**Start Date:**	**5/1/2025**	**Total phase:**	**60**		
		Start Date:	**8/1/2025**				
1	Cement and Mortar Mixers	9	0.56	8	20	2.6666667	
1	Pavers	125	0.42	8	60	8	**Asphalt? 800 cubic yards or ____ round trips?**
1	Paving Equipment	130	0.36	8	60	8	
2	Rollers	80	0.38	8	60	8	
1	Tractors/Loaders/Backhoes	97	0.37	8	20	2.6666667	
1	Sweepers	64	0.46	8	60	8	

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate
Modify horepower or load factor, as appropriate

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

Coleman Brokaw Construction Emissions Modeling

2-Jul-18 Criteria Air Pollutant Modeling

	Unmitigated in tons					Mitigated in tons			
	ROG	**NOx**	**PM10ex**	**PM2.5 ex**	**CO2e**	**ROG**	**NOx**	**PM10ex**	**PM2.5 ex**
Phase 1									
2018	0.64	6.26	0.27	0.25	857.40	0.26	3.99	0.03	0.03
2019	2.21	0.71	0.04	0.04	106.64	2.16	0.47	0.00	0.00
Phase 2									
2019	0.53	5.44	0.23	0.22	763.30	0.26	3.52	0.04	0.04
2020	3.10	1.93	0.10	0.09	331.70	3.00	1.47	0.03	0.03
Phase 3									
2020	1.72	5.36	0.22	0.20	842.90	0.94	4.06	0.08	0.08
2021	1.54	0.30	0.02	0.02	60.00	0.79	0.26	0.00	0.00
Phase 4									
2022	2.37	6.01	0.23	0.21	1261.00	1.51	2.15	0.01	0.01
2023	2.05	0.63	0.03	0.03	149.00	1.06	0.20	0.00	0.00
Phase 5									
2024	1.29	4.70	0.18	0.17	1054.00	0.57	1.75	0.01	0.01
2025	1.18	1.59	0.06	0.06	396.00	0.57	0.68	0.00	0.00
Total:	16.64	32.94	1.37	1.28	5821.94	11.13	18.55	0.21	0.21

Avg Daily				
lbs/day	**23.6**	**46.8**	**1.9**	**1.8**

Emissions by Phase in tons								
Phase 1	2.86	6.97	0.31	0.29	2.42	4.46	0.03	260
Phase 2	3.63	7.37	0.33	0.31	3.26	4.99	0.07	260
Phase 3	3.26	5.66	0.23	0.22	1.73	4.31	0.09	260
Phase 4	4.42	6.64	0.26	0.24	2.58	2.35	0.01	303
Phase 5	2.47	6.29	0.24	0.22	1.14	2.43	0.01	412

Emissions in pounds per day						
Phase 1	22.0	53.6	2.4	2.2	18.6	34.3
Phase 2	27.9	56.7	2.5	2.4	25.1	38.4
Phase 3	25.1	43.5	1.8	1.7	13.3	33.2
Phase 4	29.1	43.8	1.7	1.6	17.0	15.5
Phase 5	12.0	30.5	1.2	1.1	5.5	11.8

Coleman Brokaw Operational Emissions Modeling

3-Jul-18

Criteria Air Pollutant Modeling

		Unmitigated (tons)				Mitigated (tons)*	
		ROG	**NOx**	**PM10**	**PM2.5**	**ROG**	**NOx**
	From CalEEMod (see Table 3 AQ-GHG Report)	in Tons					
	Previous Industrial Use	*1.56*	*1.62*	*1.62*	*0.46*	*1.56*	*1.62*
2020	Phase1	1.82	2.23	1.45	0.42	1.70	2.05
2021	Phase1+Phase2	4.72	4.86	3.16	0.91	4.41	4.47
2022	Phase1+Phase2+Phase3	7.61	6.87	5.47	1.57	7.11	6.32
2024	Phase1+Phase2+Phase3+Phase4	10.65	8.67	8.44	2.42	9.95	7.98
						0.94	
	Net Operational Emissions	in Tons					
2020	Phase1	0.26	0.61	-0.17	-0.04	0.14	0.43
2021	Phase1+Phase2	3.16	3.24	1.54	0.45	2.85	2.85
2022	Phase1+Phase2+Phase3	6.05	5.25	3.85	1.11	5.55	4.70
2024	Phase1+Phase2+Phase3+Phase4	9.09	7.05	6.82	1.96	8.39	6.36

		Unmitigated (lbs/day)				Mitigated (lbs/day)	
		ROG	NOx	PM10ex	PM2.5 ex	ROG	NOx
2020	Phase1	1.4	3.3	-0.9	-0.2	1.3	3.1
2021	Phase1+Phase2	17.3	17.8	8.4	2.5	16.2	16.3
2022	Phase1+Phase2+Phase3	33.2	28.8	21.1	6.1	31.0	26.5
2024	Phase1+Phase2+Phase3+Phase4	49.8	38.6	37.4	10.7	46.5	35.5

*Mitigation Reductions

ROG = 4.6 percent for low VOC content paints

ROG = 2 Percent of total for TDM

NOx = 8 percent of total for TDM

Gateway Crossings, Phase 1 , Criteria Emissions - Santa Clara County, Annual

Gateway Crossings, Phase 1 , Criteria Emissions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	495.00	Space	0.00	224,451.00	0
Parking Lot	4.00	Space	0.00	1,600.00	0
Apartments Mid Rise	317.00	Dwelling Unit	21.40	291,779.00	907
Strip Mall	5.30	1000sqft	0.00	5,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
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 - Current CO2 Emission Intensity Rate for SVP from Climate Action Plan,2020

Land Use - From Construction information for Phase 1 amenity added to res.

Construction Phase - Assumed additional phase: demolition

Off-road Equipment -

Off-road Equipment - Applicant provided information

Off-road Equipment - Applicant provided infromation

Off-road Equipment - applicant provided information

Off-road Equipment - Applicant provided equipment information

Off-road Equipment - Applicant provided information

Trips and VMT - 1 mile for on and near site

Demolition - demolition: 272,840 sf (From project description- Existing Building)

Grading - Export Volume: 23542 cy

Architectural Coating -

Vehicle Trips - project traffic report

Woodstoves - No wood stoves or wood based fireplaces

Area Coating -

Energy Use - Title 24, 2013 values used

Construction Off-road Equipment Mitigation - Best Management Practices

Tier 3/DPF 3 Mitigation

Energy Mitigation - Title 24, 2016 came into effect on January 1st, 2017

Stationary Sources - Emergency Generators and Fire Pumps -

Off-road Equipment - Applicant provided list

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	35.00	40.00
tblConstructionPhase	NumDays	370.00	100.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	PhaseEndDate	11/9/2018	10/26/2018
tblConstructionPhase	PhaseEndDate	12/28/2018	12/26/2018
tblConstructionPhase	PhaseEndDate	5/29/2020	5/18/2018
tblConstructionPhase	PhaseEndDate	7/24/2020	9/17/2019
tblConstructionPhase	PhaseEndDate	6/26/2020	8/23/2019
tblConstructionPhase	PhaseStartDate	10/27/2018	10/1/2018
tblConstructionPhase	PhaseStartDate	11/10/2018	11/1/2018
tblConstructionPhase	PhaseStartDate	12/29/2018	1/1/2018

tblConstructionPhase	PhaseStartDate	6/27/2020	5/1/2019
tblConstructionPhase	PhaseStartDate	5/30/2020	7/1/2019
tblGrading	MaterialExported	0.00	23,542.00
tblLandUse	LandUseSquareFeet	198,000.00	224,451.00
tblLandUse	LandUseSquareFeet	317,000.00	291,779.00
tblLandUse	LotAcreage	4.46	0.00
tblLandUse	LotAcreage	0.04	0.00
tblLandUse	LotAcreage	8.34	21.40
tblLandUse	LotAcreage	0.12	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.20	0.20
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers

tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	3.20
tblProjectCharacteristics	CO2IntensityFactor	641.35	380

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	0.6447	6.2614	4.2916	9.3900e-003	0.5555	0.2709	0.8263	0.1966	0.2527	0.4493	0.0000	853.3518	853.3518	0.1631	0.0000	857.4282
2019	2.2143	0.7075	0.6807	1.1900e-003	0.0286	0.0422	0.0708	7.6100e-003	0.0394	0.0470	0.0000	106.0710	106.0710	0.0230	0.0000	106.6454
Maximum	**2.2143**	**6.2614**	**4.2916**	**9.3900e-003**	**0.5555**	**0.2709**	**0.8263**	**0.1966**	**0.2527**	**0.4493**	**0.0000**	**853.3518**	**853.3518**	**0.1631**	**0.0000**	**857.4282**

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	0.2559	3.9935	4.4639	9.3900e-003	0.3523	0.0297	0.3820	0.0832	0.0294	0.1126	0.0000	853.3512	853.3512	0.1631	0.0000	857.4275
2019	2.1633	0.4714	0.7290	1.1900e-003	0.0286	4.4400e-003	0.0331	7.6100e-003	4.4200e-003	0.0120	0.0000	106.0710	106.0710	0.0230	0.0000	106.6453
Maximum	**2.1633**	**3.9935**	**4.4639**	**9.3900e-003**	**0.3523**	**0.0297**	**0.3820**	**0.0832**	**0.0294**	**0.1126**	**0.0000**	**853.3512**	**853.3512**	**0.1631**	**0.0000**	**857.4275**

	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	**15.38**	**35.93**	**-4.44**	**0.00**	**34.79**	**89.09**	**53.74**	**55.54**	**88.43**	**74.90**	**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	10-1-2018	12-31-2018	3.5044	1.9771
3	4-1-2019	6-30-2019	1.1408	1.0611
4	7-1-2019	9-30-2019	1.7698	1.5660
		Highest	3.5044	1.9771

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/1/2018	10/26/2018	5	20	
2	Grading	Grading	11/1/2018	12/26/2018	5	40	
3	Building Construction	Building Construction	1/1/2018	5/18/2018	5	100	
4	Paving	Paving	7/1/2019	8/23/2019	5	40	
5	Building Interior	Architectural Coating	5/1/2019	9/17/2019	5	100	
6	Trenching	Trenching	12/1/2018	12/28/2018	5	20	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 160

Acres of Paving: 0

Residential Indoor: 590,852; Residential Outdoor: 196,951; Non-Residential Indoor: 7,950; Non-Residential Outdoor: 2,650; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Scrapers	3	8.00	367	0.48
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Graders	2	8.00	187	0.41
Grading	Rollers	2	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Building Construction	Aerial Lifts	3	8.00	63	0.31
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	3	8.00	367	0.48

Building Construction	Other Construction Equipment	3	8.00	172	0.42
Paving	Cement and Mortar Mixers	1	4.00	9	0.56
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Building Interior	Aerial Lifts	1	8.00	63	0.31
Building Interior	Cranes	1	4.00	231	0.29
Building Interior	Forklifts	2	8.00	89	0.20
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Trenching	Excavators	2	8.00	158	0.38
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	5	8.00	46	0.45
Trenching	Rubber Tired Loaders	2	8.00	203	0.36
Building Interior	Air Compressors	2	3.20	78	0.48
Trenching	Rough Terrain Forklifts	1	8.00	100	0.40
Trenching	Skid Steer Loaders	1	8.00	65	0.37
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

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
Trenching	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	9	23.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	2,943.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	18	325.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Building Interior	6	65.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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					0.1629	0.0000	0.1629	0.0708	0.0000	0.0708	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0717	0.8579	0.4267	8.1000e-004		0.0361	0.0361		0.0332	0.0332	0.0000	73.9834	73.9834	0.0230	0.0000	74.5592
Total	**0.0717**	**0.8579**	**0.4267**	**8.1000e-004**	**0.1629**	**0.0361**	**0.1989**	**0.0708**	**0.0332**	**0.1040**	**0.0000**	**73.9834**	**73.9834**	**0.0230**	**0.0000**	**74.5592**

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					
Fugitive Dust					0.0733	0.0000	0.0733	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.3888	0.4424	8.1000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	73.9833	73.9833	0.0230	0.0000	74.5591
Total	**0.0199**	**0.3888**	**0.4424**	**8.1000e-004**	**0.0733**	**2.3500e-003**	**0.0756**	**0.0159**	**2.3500e-003**	**0.0183**	**0.0000**	**73.9833**	**73.9833**	**0.0230**	**0.0000**	**74.5591**

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**

3.3 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					0.2066	0.0000	0.2066	0.0756	0.0000	0.0756	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1480	1.7397	1.0132	1.8100e-003		0.0771	0.0771		0.0710	0.0710	0.0000	165.2505	165.2505	0.0514	0.0000	166.5366
Total	**0.1480**	**1.7397**	**1.0132**	**1.8100e-003**	**0.2066**	**0.0771**	**0.2837**	**0.0756**	**0.0710**	**0.1465**	**0.0000**	**165.2505**	**165.2505**	**0.0514**	**0.0000**	**166.5366**

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	0.0141	0.4824	0.0938	1.1900e-003	0.0249	1.9300e-003	0.0269	6.8600e-003	1.8400e-003	8.7000e-003	0.0000	114.5260	114.5260	5.4100e-003	0.0000	114.6612
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	2.6600e-003	2.0400e-003	0.0208	5.0000e-005	5.2300e-003	4.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.7757	4.7757	1.4000e-004	0.0000	4.7793
Total	**0.0168**	**0.4844**	**0.1146**	**1.2400e-003**	**0.0302**	**1.9700e-003**	**0.0321**	**8.2500e-003**	**1.8700e-003**	**0.0101**	**0.0000**	**119.3018**	**119.3018**	**5.5500e-003**	**0.0000**	**119.4405**

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					0.0930	0.0000	0.0930	0.0170	0.0000	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0444	0.8811	1.0672	1.8100e-003		5.8600e-003	5.8600e-003		5.8600e-003	5.8600e-003	0.0000	165.2503	165.2503	0.0514	0.0000	166.5364
Total	**0.0444**	**0.8811**	**1.0672**	**1.8100e-003**	**0.0930**	**5.8600e-003**	**0.0988**	**0.0170**	**5.8600e-003**	**0.0229**	**0.0000**	**165.2503**	**165.2503**	**0.0514**	**0.0000**	**166.5364**

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	0.0141	0.4824	0.0938	1.1900e-003	0.0249	1.9300e-003	0.0269	6.8600e-003	1.8400e-003	8.7000e-003	0.0000	114.5260	114.5260	5.4100e-003	0.0000	114.6612
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	2.6600e-003	2.0400e-003	0.0208	5.0000e-005	5.2300e-003	4.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.7757	4.7757	1.4000e-004	0.0000	4.7793
Total	**0.0168**	**0.4844**	**0.1146**	**1.2400e-003**	**0.0302**	**1.9700e-003**	**0.0321**	**8.2500e-003**	**1.8700e-003**	**0.0101**	**0.0000**	**119.3018**	**119.3018**	**5.5500e-003**	**0.0000**	**119.4405**

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	0.3019	2.4184	1.9168	2.8800e-003		0.1409	0.1409		0.1330	0.1330	0.0000	250.2755	250.2755	0.0655	0.0000	251.9138

Total	**0.3019**	**2.4184**	**1.9168**	**2.8800e-003**		**0.1409**	**0.1409**		**0.1330**	**0.1330**	**0.0000**	**250.2755**	**250.2755**	**0.0655**	**0.0000**	**251.9138**

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	0.0197	0.4825	0.1343	1.0000e-003	0.0237	3.8700e-003	0.0276	6.8500e-003	3.7000e-003	0.0106	0.0000	95.2855	95.2855	4.9400e-003	0.0000	95.4090
Worker	0.0654	0.0503	0.5125	1.3000e-003	0.1289	8.7000e-004	0.1298	0.0343	8.0000e-004	0.0351	0.0000	117.5843	117.5843	3.5300e-003	0.0000	117.6725
Total	**0.0851**	**0.5328**	**0.6467**	**2.3000e-003**	**0.1526**	**4.7400e-003**	**0.1573**	**0.0411**	**4.5000e-003**	**0.0456**	**0.0000**	**212.8697**	**212.8697**	**8.4700e-003**	**0.0000**	**213.0816**

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	0.0803	1.5479	1.9695	2.8800e-003		0.0136	0.0136		0.0136	0.0136	0.0000	250.2752	250.2752	0.0655	0.0000	251.9135
Total	**0.0803**	**1.5479**	**1.9695**	**2.8800e-003**		**0.0136**	**0.0136**		**0.0136**	**0.0136**	**0.0000**	**250.2752**	**250.2752**	**0.0655**	**0.0000**	**251.9135**

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	0.0197	0.4825	0.1343	1.0000e-003	0.0237	3.8700e-003	0.0276	6.8500e-003	3.7000e-003	0.0106	0.0000	95.2855	95.2855	4.9400e-003	0.0000	95.4090
Worker	0.0654	0.0503	0.5125	1.3000e-003	0.1289	8.7000e-004	0.1298	0.0343	8.0000e-004	0.0351	0.0000	117.5843	117.5843	3.5300e-003	0.0000	117.6725
Total	**0.0851**	**0.5328**	**0.6467**	**2.3000e-003**	**0.1526**	**4.7400e-003**	**0.1573**	**0.0411**	**4.5000e-003**	**0.0456**	**0.0000**	**212.8697**	**212.8697**	**8.4700e-003**	**0.0000**	**213.0816**

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	0.0276	0.2733	0.2504	3.7000e-004		0.0169	0.0169		0.0155	0.0155	0.0000	32.9459	32.9459	0.0103	0.0000	33.2040
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0276**	**0.2733**	**0.2504**	**3.7000e-004**		**0.0169**	**0.0169**		**0.0155**	**0.0155**	**0.0000**	**32.9459**	**32.9459**	**0.0103**	**0.0000**	**33.2040**

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	1.3100e-003	9.7000e-004	0.0101	3.0000e-005	2.8600e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5275	2.5275	7.0000e-005	0.0000	2.5292
Total	**1.3100e-003**	**9.7000e-004**	**0.0101**	**3.0000e-005**	**2.8600e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5275**	**2.5275**	**7.0000e-005**	**0.0000**	**2.5292**

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	8.8900e-003	0.1878	0.2740	3.7000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	32.9458	32.9458	0.0103	0.0000	33.2040
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.8900e-003**	**0.1878**	**0.2740**	**3.7000e-004**		**1.7000e-003**	**1.7000e-003**		**1.7000e-003**	**1.7000e-003**	**0.0000**	**32.9458**	**32.9458**	**0.0103**	**0.0000**	**33.2040**

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	1.3100e-003	9.7000e-004	0.0101	3.0000e-005	2.8600e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5275	2.5275	7.0000e-005	0.0000	2.5292
Total	**1.3100e-003**	**9.7000e-004**	**0.0101**	**3.0000e-005**	**2.8600e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5275**	**2.5275**	**7.0000e-005**	**0.0000**	**2.5292**

3.6 Building Interior - 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	2.1287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0448	0.4245	0.3295	5.4000e-004		0.0251	0.0251		0.0237	0.0237	0.0000	47.7800	47.7800	0.0120	0.0000	48.0789
Total	**2.1736**	**0.4245**	**0.3295**	**5.4000e-004**		**0.0251**	**0.0251**		**0.0237**	**0.0237**	**0.0000**	**47.7800**	**47.7800**	**0.0120**	**0.0000**	**48.0789**

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	0.0118	8.7900e-003	0.0908	2.5000e-004	0.0258	1.7000e-004	0.0260	6.8600e-003	1.6000e-004	7.0100e-003	0.0000	22.8177	22.8177	6.2000e-004	0.0000	22.8332
Total	**0.0118**	**8.7900e-003**	**0.0908**	**2.5000e-004**	**0.0258**	**1.7000e-004**	**0.0260**	**6.8600e-003**	**1.6000e-004**	**7.0100e-003**	**0.0000**	**22.8177**	**22.8177**	**6.2000e-004**	**0.0000**	**22.8332**

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	2.1287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.2738	0.3541	5.4000e-004		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003	0.0000	47.7799	47.7799	0.0120	0.0000	48.0789
Total	**2.1413**	**0.2738**	**0.3541**	**5.4000e-004**		**2.5500e-003**	**2.5500e-003**		**2.5500e-003**	**2.5500e-003**	**0.0000**	**47.7799**	**47.7799**	**0.0120**	**0.0000**	**48.0789**

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	0.0118	8.7900e-003	0.0908	2.5000e-004	0.0258	1.7000e-004	0.0260	6.8600e-003	1.6000e-004	7.0100e-003	0.0000	22.8177	22.8177	6.2000e-004	0.0000	22.8332
Total	**0.0118**	**8.7900e-003**	**0.0908**	**2.5000e-004**	**0.0258**	**1.7000e-004**	**0.0260**	**6.8600e-003**	**1.6000e-004**	**7.0100e-003**	**0.0000**	**22.8177**	**22.8177**	**6.2000e-004**	**0.0000**	**22.8332**

3.7 Trenching - 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	0.0195	0.2269	0.1606	3.1000e-004		0.0100	0.0100		9.2300e-003	9.2300e-003	0.0000	28.7042	28.7042	8.9400e-003	0.0000	28.9276

Total	**0.0195**	**0.2269**	**0.1606**	**3.1000e-004**		**0.0100**	**0.0100**		**9.2300e-003**	**9.2300e-003**	**0.0000**	**28.7042**	**28.7042**	**8.9400e-003**	**0.0000**	**28.9276**

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	7.2000e-004	5.6000e-004	5.6800e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3025	1.3025	4.0000e-005	0.0000	1.3035
Total	**7.2000e-004**	**5.6000e-004**	**5.6800e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.3025**	**1.3025**	**4.0000e-005**	**0.0000**	**1.3035**

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	0.1572	0.2106	3.1000e-004		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	28.7041	28.7041	8.9400e-003	0.0000	28.9275
Total	**7.7500e-003**	**0.1572**	**0.2106**	**3.1000e-004**		**1.2000e-003**	**1.2000e-003**		**1.2000e-003**	**1.2000e-003**	**0.0000**	**28.7041**	**28.7041**	**8.9400e-003**	**0.0000**	**28.9275**

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	7.2000e-004	5.6000e-004	5.6800e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3025	1.3025	4.0000e-005	0.0000	1.3035
Total	**7.2000e-004**	**5.6000e-004**	**5.6800e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.3025**	**1.3025**	**4.0000e-005**	**0.0000**	**1.3035**

Gateway Crossings Phase 2, Criteria and Operational - Santa Clara County, Annual

Gateway Crossings Phase 2, Criteria and Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	652.00	Space	5.87	260,800.00	0
Parking Lot	7.00	Space	0.06	2,800.00	0
Apartments Mid Rise	399.00	Dwelling Unit	10.50	399,000.00	1141

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	Pacific Gas & Electric Company				
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-CO2 factor from climate action plan 2020

Land Use - Applicant provided land use sizes

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction infromation

Off-road Equipment - Applicant provided construction infromation

Off-road Equipment - Applicant provided infromation

Off-road Equipment - Applicant provided construction infromation

Off-road Equipment - Applicant provided infromation

Off-road Equipment - Applicant provided information

Trips and VMT - Default trip numbers used

800 cy pf paving

Demolition -

Grading - Soil export during grading: 19,496 cy

Vehicle Trips - From project traffic report

Woodstoves - No wood based fireplaces or woodstoves

Energy Use - title 24, 2013

Construction Off-road Equipment Mitigation - Best Management Practices

Tier 3/DPF 3 Mitigation

Energy Mitigation - title 24 106 values came into effect on 1st January, 2017

Off-road Equipment - Applicant provided list

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	CNG

tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	30.00	40.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	PhaseEndDate	7/12/2019	7/26/2019
tblConstructionPhase	PhaseEndDate	8/23/2019	9/25/2019
tblConstructionPhase	PhaseEndDate	10/16/2020	2/17/2020
tblConstructionPhase	PhaseEndDate	12/11/2020	6/19/2020
tblConstructionPhase	PhaseEndDate	11/13/2020	5/26/2020
tblConstructionPhase	PhaseStartDate	7/13/2019	8/1/2019
tblConstructionPhase	PhaseStartDate	8/24/2019	10/1/2019
tblConstructionPhase	PhaseStartDate	11/14/2020	2/1/2020
tblConstructionPhase	PhaseStartDate	10/17/2020	4/1/2020
tblGrading	MaterialExported	0.00	19,496.00
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.29

tblOffRoadEquipment	LoadFactor	0.20	0.20
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00

tblOffRoadEquipment	UsageHours	6.00	3.20
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	380
tblTripsAndVMT	HaulingTripNumber	0.00	100.00

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	0.5349	5.4389	3.8336	8.4100e-003	0.5212	0.2333	0.7545	0.1874	0.2167	0.4041	0.0000	759.4208	759.4208	0.1569	0.0000	763.3422
2020	3.0955	1.9344	1.9163	3.7400e-003	0.0995	0.0975	0.1970	0.0267	0.0913	0.1180	0.0000	330.1799	330.1799	0.0617	0.0000	331.7223
Maximum	**3.0955**	**5.4389**	**3.8336**	**8.4100e-003**	**0.5212**	**0.2333**	**0.7545**	**0.1874**	**0.2167**	**0.4041**	**0.0000**	**759.4208**	**759.4208**	**0.1569**	**0.0000**	**763.3422**

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	0.2614	3.5209	5.4438	8.4100e-003	0.3181	0.0417	0.3598	0.0740	0.0412	0.1152	0.0000	766.3788	766.3788	0.1591	0.0000	770.3552
2020	3.0007	1.4692	3.5909	3.7400e-003	0.0995	0.0294	0.1289	0.0267	0.0291	0.0558	0.0000	337.8088	337.8088	0.0642	0.0000	339.4129

Maximum	3.0007	3.5209	5.4438	8.4100e-003	0.3181	0.0417	0.3598	0.0740	0.0412	0.1152	0.0000	766.3788	766.3788	0.1591	0.0000	770.3552

	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	10.14	32.32	-57.13	0.00	32.72	78.54	48.65	52.98	77.17	67.25	0.00	-1.34	-1.34	-2.13	0.00	-1.34

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	3.1362	1.8543
2	10-1-2019	12-31-2019	2.7569	1.8855
3	1-1-2020	3-31-2020	2.7802	2.3772
4	4-1-2020	6-30-2020	2.2652	2.1052
		Highest	3.1362	2.3772

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/26/2019	5	20	
2	Grading	Grading	8/1/2019	9/25/2019	5	40	
3	Building Construction	Building Construction	10/1/2019	2/17/2020	5	100	
4	Paving	Paving	4/1/2020	5/26/2020	5	40	
5	Building Interior	Architectural Coating	2/1/2020	6/19/2020	5	100	
6	Trenching	Trenching	9/1/2019	9/27/2019	5	20	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 160

Acres of Paving: 5.93

Residential Indoor: 807,975; Residential Outdoor: 269,325; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Scrapers	3	8.00	367	0.48
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	3	8.00	367	0.48
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Excavators	2	8.00	158	0.38
Trenching	Rubber Tired Loaders	2	8.00	203	0.36
Trenching	Rough Terrain Forklifts	1	8.00	100	0.40
Trenching	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Aerial Lifts	4	8.00	63	0.31
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	5	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Other Construction Equipment	5	8.00	172	0.42
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	5	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	4.00	9	0.56
Building Interior	Air Compressors	3	3.20	78	0.48
Paving	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Building Interior	Aerial Lifts	2	8.00	63	0.31

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Interior	Cranes	1	4.00	231	0.29
Building Interior	Forklifts	2	8.00	89	0.20

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	9	23.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	2,437.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	24	398.00	86.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior	8	80.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	23.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					0.1629	0.0000	0.1629	0.0708	0.0000	0.0708	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0676	0.7951	0.4012	8.1000e-004		0.0333	0.0333		0.0306	0.0306	0.0000	72.7354	72.7354	0.0230	0.0000	73.3108
Total	**0.0676**	**0.7951**	**0.4012**	**8.1000e-004**	**0.1629**	**0.0333**	**0.1961**	**0.0708**	**0.0306**	**0.1014**	**0.0000**	**72.7354**	**72.7354**	**0.0230**	**0.0000**	**73.3108**

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	8.4000e-004	6.2000e-004	6.4300e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6148	1.6148	4.0000e-005	0.0000	1.6159
Total	**8.4000e-004**	**6.2000e-004**	**6.4300e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6148**	**1.6148**	**4.0000e-005**	**0.0000**	**1.6159**

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					0.0733	0.0000	0.0733	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.3888	0.4424	8.1000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	72.7354	72.7354	0.0230	0.0000	73.3107

Total	**0.0199**	**0.3888**	**0.4424**	**8.1000e-004**	**0.0733**	**2.3500e-003**	**0.0756**	**0.0159**	**2.3500e-003**	**0.0183**	**0.0000**	**72.7354**	**72.7354**	**0.0230**	**0.0000**	**73.3107**

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	8.4000e-004	6.2000e-004	6.4300e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6148	1.6148	4.0000e-005	0.0000	1.6159
Total	**8.4000e-004**	**6.2000e-004**	**6.4300e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6148**	**1.6148**	**4.0000e-005**	**0.0000**	**1.6159**

3.3 Grading - 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					0.2064	0.0000	0.2064	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1376	1.5953	0.9635	1.8100e-003		0.0698	0.0698		0.0642	0.0642	0.0000	162.6681	162.6681	0.0515	0.0000	163.9548
Total	**0.1376**	**1.5953**	**0.9635**	**1.8100e-003**	**0.2064**	**0.0698**	**0.2762**	**0.0755**	**0.0642**	**0.1398**	**0.0000**	**162.6681**	**162.6681**	**0.0515**	**0.0000**	**163.9548**

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	0.0111	0.3794	0.0749	9.7000e-004	0.0207	1.4600e-003	0.0221	5.6800e-003	1.3900e-003	7.0700e-003	0.0000	93.9031	93.9031	4.4000e-003	0.0000	94.0131
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	2.4000e-003	1.7800e-003	0.0184	5.0000e-005	5.2300e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.6338	4.6338	1.3000e-004	0.0000	4.6369
Total	**0.0135**	**0.3812**	**0.0934**	**1.0200e-003**	**0.0259**	**1.4900e-003**	**0.0274**	**7.0700e-003**	**1.4200e-003**	**8.4900e-003**	**0.0000**	**98.5368**	**98.5368**	**4.5300e-003**	**0.0000**	**98.6500**

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					0.0929	0.0000	0.0929	0.0170	0.0000	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0445	0.8822	1.0687	1.8100e-003		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	162.6680	162.6680	0.0515	0.0000	163.9546
Total	**0.0445**	**0.8822**	**1.0687**	**1.8100e-003**	**0.0929**	**5.8700e-003**	**0.0987**	**0.0170**	**5.8700e-003**	**0.0229**	**0.0000**	**162.6680**	**162.6680**	**0.0515**	**0.0000**	**163.9546**

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	0.0111	0.3794	0.0749	9.7000e-004	0.0207	1.4600e-003	0.0221	5.6800e-003	1.3900e-003	7.0700e-003	0.0000	93.9031	93.9031	4.4000e-003	0.0000	94.0131
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	2.4000e-003	1.7800e-003	0.0184	5.0000e-005	5.2300e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.6338	4.6338	1.3000e-004	0.0000	4.6369
Total	**0.0135**	**0.3812**	**0.0934**	**1.0200e-003**	**0.0259**	**1.4900e-003**	**0.0274**	**7.0700e-003**	**1.4200e-003**	**8.4900e-003**	**0.0000**	**98.5368**	**98.5368**	**4.5300e-003**	**0.0000**	**98.6500**

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	0.2353	2.0691	1.7422	2.6200e-003		0.1167	0.1167		0.1093	0.1093	0.0000	227.4956	227.4956	0.0626	0.0000	229.0612
Total	**0.2353**	**2.0691**	**1.7422**	**2.6200e-003**		**0.1167**	**0.1167**		**0.1093**	**0.1093**	**0.0000**	**227.4956**	**227.4956**	**0.0626**	**0.0000**	**229.0612**

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	0.0139	0.3584	0.0962	7.8000e-004	0.0187	2.5800e-003	0.0212	5.4000e-003	2.4600e-003	7.8600e-003	0.0000	74.6541	74.6541	3.7000e-003	0.0000	74.7467
Worker	0.0477	0.0355	0.3669	1.0200e-003	0.1042	6.9000e-004	0.1049	0.0277	6.3000e-004	0.0283	0.0000	92.2116	92.2116	2.5100e-003	0.0000	92.2744
Total	**0.0616**	**0.3939**	**0.4631**	**1.8000e-003**	**0.1228**	**3.2700e-003**	**0.1261**	**0.0331**	**3.0900e-003**	**0.0362**	**0.0000**	**166.8657**	**166.8657**	**6.2100e-003**	**0.0000**	**167.0211**

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	0.1127	1.3164	3.1542	2.6200e-003		0.0275	0.0275		0.0273	0.0273	0.0000	234.4539	234.4539	0.0648	0.0000	236.0746
Total	**0.1127**	**1.3164**	**3.1542**	**2.6200e-003**		**0.0275**	**0.0275**		**0.0273**	**0.0273**	**0.0000**	**234.4539**	**234.4539**	**0.0648**	**0.0000**	**236.0746**

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	0.0139	0.3584	0.0962	7.8000e-004	0.0187	2.5800e-003	0.0212	5.4000e-003	2.4600e-003	7.8600e-003	0.0000	74.6541	74.6541	3.7000e-003	0.0000	74.7467
Worker	0.0477	0.0355	0.3669	1.0200e-003	0.1042	6.9000e-004	0.1049	0.0277	6.3000e-004	0.0283	0.0000	92.2116	92.2116	2.5100e-003	0.0000	92.2744
Total	**0.0616**	**0.3939**	**0.4631**	**1.8000e-003**	**0.1228**	**3.2700e-003**	**0.1261**	**0.0331**	**3.0900e-003**	**0.0362**	**0.0000**	**166.8657**	**166.8657**	**6.2100e-003**	**0.0000**	**167.0211**

3.4 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	0.1107	0.9860	0.8863	1.3500e-003		0.0537	0.0537		0.0503	0.0503	0.0000	115.1973	115.1973	0.0319	0.0000	115.9943
Total	**0.1107**	**0.9860**	**0.8863**	**1.3500e-003**		**0.0537**	**0.0537**		**0.0503**	**0.0503**	**0.0000**	**115.1973**	**115.1973**	**0.0319**	**0.0000**	**115.9943**

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	5.7900e-003	0.1665	0.0443	4.0000e-004	9.6200e-003	8.2000e-004	0.0104	2.7800e-003	7.9000e-004	3.5700e-003	0.0000	38.2229	38.2229	1.7500e-003	0.0000	38.2668
Worker	0.0225	0.0162	0.1693	5.1000e-004	0.0537	3.5000e-004	0.0540	0.0143	3.2000e-004	0.0146	0.0000	46.0189	46.0189	1.1300e-003	0.0000	46.0471
Total	**0.0283**	**0.1826**	**0.2137**	**9.1000e-004**	**0.0633**	**1.1700e-003**	**0.0645**	**0.0171**	**1.1100e-003**	**0.0182**	**0.0000**	**84.2418**	**84.2418**	**2.8800e-003**	**0.0000**	**84.3139**

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	0.0549	0.6932	1.6734	1.3500e-003		0.0135	0.0135		0.0134	0.0134	0.0000	118.6930	118.6930	0.0330	0.0000	119.5182

Total	**0.0549**	**0.6932**	**1.6734**	**1.3500e-003**		**0.0135**	**0.0135**		**0.0134**	**0.0134**	**0.0000**	**118.6930**	**118.6930**	**0.0330**	**0.0000**	**119.5182**

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	5.7900e-003	0.1665	0.0443	4.0000e-004	9.6200e-003	8.2000e-004	0.0104	2.7800e-003	7.9000e-004	3.5700e-003	0.0000	38.2229	38.2229	1.7500e-003	0.0000	38.2668
Worker	0.0225	0.0162	0.1693	5.1000e-004	0.0537	3.5000e-004	0.0540	0.0143	3.2000e-004	0.0146	0.0000	46.0189	46.0189	1.1300e-003	0.0000	46.0471
Total	**0.0283**	**0.1826**	**0.2137**	**9.1000e-004**	**0.0633**	**1.1700e-003**	**0.0645**	**0.0171**	**1.1100e-003**	**0.0182**	**0.0000**	**84.2418**	**84.2418**	**2.8800e-003**	**0.0000**	**84.3139**

3.5 Paving - 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	0.0284	0.2777	0.2753	4.1000e-004		0.0168	0.0168		0.0155	0.0155	0.0000	35.4132	35.4132	0.0113	0.0000	35.6945
Paving	8.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0285**	**0.2777**	**0.2753**	**4.1000e-004**		**0.0168**	**0.0168**		**0.0155**	**0.0155**	**0.0000**	**35.4132**	**35.4132**	**0.0113**	**0.0000**	**35.6945**

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	4.2000e-004	0.0145	2.9700e-003	4.0000e-005	8.5000e-004	5.0000e-005	8.9000e-004	2.3000e-004	5.0000e-005	2.8000e-004	0.0000	3.8135	3.8135	1.7000e-004	0.0000	3.8179
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	1.5300e-003	1.1000e-003	0.0115	3.0000e-005	3.6500e-003	2.0000e-005	3.6700e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.1287	3.1287	8.0000e-005	0.0000	3.1306
Total	**1.9500e-003**	**0.0156**	**0.0145**	**7.0000e-005**	**4.5000e-003**	**7.0000e-005**	**4.5600e-003**	**1.2000e-003**	**7.0000e-005**	**1.2700e-003**	**0.0000**	**6.9422**	**6.9422**	**2.5000e-004**	**0.0000**	**6.9485**

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	9.6400e-003	0.2051	0.2973	4.1000e-004		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	35.4132	35.4132	0.0113	0.0000	35.6945
Paving	8.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.7200e-003**	**0.2051**	**0.2973**	**4.1000e-004**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**35.4132**	**35.4132**	**0.0113**	**0.0000**	**35.6945**

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	4.2000e-004	0.0145	2.9700e-003	4.0000e-005	8.5000e-004	5.0000e-005	8.9000e-004	2.3000e-004	5.0000e-005	2.8000e-004	0.0000	3.8135	3.8135	1.7000e-004	0.0000	3.8179
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	1.5300e-003	1.1000e-003	0.0115	3.0000e-005	3.6500e-003	2.0000e-005	3.6700e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.1287	3.1287	8.0000e-005	0.0000	3.1306
Total	**1.9500e-003**	**0.0156**	**0.0145**	**7.0000e-005**	**4.5000e-003**	**7.0000e-005**	**4.5600e-003**	**1.2000e-003**	**7.0000e-005**	**1.2700e-003**	**0.0000**	**6.9422**	**6.9422**	**2.5000e-004**	**0.0000**	**6.9485**

3.6 Building Interior - 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	2.8637					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0490	0.4630	0.4265	7.0000e-004		0.0255	0.0255		0.0242	0.0242	0.0000	61.1794	61.1794	0.0148	0.0000	61.5484
Total	**2.9127**	**0.4630**	**0.4265**	**7.0000e-004**		**0.0255**	**0.0255**		**0.0242**	**0.0242**	**0.0000**	**61.1794**	**61.1794**	**0.0148**	**0.0000**	**61.5484**

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	0.0133	9.5500e-003	0.1001	3.0000e-004	0.0317	2.0000e-004	0.0319	8.4400e-003	1.9000e-004	8.6300e-003	0.0000	27.2060	27.2060	6.7000e-004	0.0000	27.2227
Total	**0.0133**	**9.5500e-003**	**0.1001**	**3.0000e-004**	**0.0317**	**2.0000e-004**	**0.0319**	**8.4400e-003**	**1.9000e-004**	**8.6300e-003**	**0.0000**	**27.2060**	**27.2060**	**6.7000e-004**	**0.0000**	**27.2227**

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	2.8637					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0289	0.3632	1.2920	7.0000e-004		0.0126	0.0126		0.0125	0.0125	0.0000	65.3126	65.3126	0.0161	0.0000	65.7151
Total	**2.8926**	**0.3632**	**1.2920**	**7.0000e-004**		**0.0126**	**0.0126**		**0.0125**	**0.0125**	**0.0000**	**65.3126**	**65.3126**	**0.0161**	**0.0000**	**65.7151**

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	0.0133	9.5500e-003	0.1001	3.0000e-004	0.0317	2.0000e-004	0.0319	8.4400e-003	1.9000e-004	8.6300e-003	0.0000	27.2060	27.2060	6.7000e-004	0.0000	27.2227
Total	**0.0133**	**9.5500e-003**	**0.1001**	**3.0000e-004**	**0.0317**	**2.0000e-004**	**0.0319**	**8.4400e-003**	**1.9000e-004**	**8.6300e-003**	**0.0000**	**27.2060**	**27.2060**	**6.7000e-004**	**0.0000**	**27.2227**

3.7 Trenching - 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	0.0178	0.2033	0.1588	3.1000e-004		8.7200e-003	8.7200e-003		8.0300e-003	8.0300e-003	0.0000	28.2405	28.2405	8.9300e-003	0.0000	28.4639
Total	**0.0178**	**0.2033**	**0.1588**	**3.1000e-004**		**8.7200e-003**	**8.7200e-003**		**8.0300e-003**	**8.0300e-003**	**0.0000**	**28.2405**	**28.2405**	**8.9300e-003**	**0.0000**	**28.4639**

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	6.5000e-004	4.9000e-004	5.0300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2638	1.2638	3.0000e-005	0.0000	1.2646
Total	**6.5000e-004**	**4.9000e-004**	**5.0300e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2638**	**1.2638**	**3.0000e-005**	**0.0000**	**1.2646**

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	0.1572	0.2106	3.1000e-004		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	28.2405	28.2405	8.9300e-003	0.0000	28.4638

Total	**7.7500e-003**	**0.1572**	**0.2106**	**3.1000e-004**		**1.2000e-003**	**1.2000e-003**		**1.2000e-003**	**1.2000e-003**	**0.0000**	**28.2405**	**28.2405**	**8.9300e-003**	**0.0000**	**28.4638**

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	6.5000e-004	4.9000e-004	5.0300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2638	1.2638	3.0000e-005	0.0000	1.2646
Total	**6.5000e-004**	**4.9000e-004**	**5.0300e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2638**	**1.2638**	**3.0000e-005**	**0.0000**	**1.2646**

Phase 3, Criteria and Operational Emissions - Santa Clara County, Annual

Phase 3, Criteria and Operational Emissions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	563.00	Space	5.07	225,933.00	0
Parking Lot	6.00	Space	0.05	2,400.00	0
Apartments Mid Rise	371.00	Dwelling Unit	9.76	371,000.00	1061
Strip Mall	4.90	1000sqft	0.11	4,900.00	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	Pacific Gas & Electric Company				
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 - PG&E used to reprsent SVP. Current CO2 emisison factor from Santa Clara CLimate Action Plan 2020

Land Use - Applicant provided information on construction spreadsheet

Construction Phase - Applicant provided construction schedule

Off-road Equipment -

Off-road Equipment - Applicant provided infromation

Off-road Equipment - Applicant provided information

Off-road Equipment - Applicant provided infromation

Off-road Equipment - Applicant provided infromation

Off-road Equipment - Applicant provided infromation

Trips and VMT - Paving trips= 800/16*2

Grading - 20919 cy of soil hauled

Vehicle Trips - Project traffic report

Woodstoves - no woodstoves or wood based firplaces

Energy Use - Title 24, 2013 values

Construction Off-road Equipment Mitigation - Best Management Practices

tier 3/DPF 3 Mitigation

Energy Mitigation - title 24,2016 came into effect on 1st january, 2017

Architectural Coating - Redcue VOC content in paints

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	CNG

tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	30.00	40.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	20.00	40.00
tblGrading	MaterialExported	0.00	20,919.00
tblLandUse	LandUseSquareFeet	225,200.00	225,933.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	380
tblTripsAndVMT	HaulingTripNumber	0.00	100.00

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					
2020	1.1428	5.3637	3.9356	9.4000e-003	0.5817	0.2165	0.7982	0.2036	0.2017	0.4053	0.0000	840.0303	840.0303	0.1580	0.0000	843.9796
2021	0.8032	0.2965	0.3616	6.8000e-004	0.0202	0.0164	0.0366	5.3900e-003	0.0153	0.0207	0.0000	59.7066	59.7066	0.0114	0.0000	59.9920
Maximum	**1.1428**	**5.3637**	**3.9356**	**9.4000e-003**	**0.5817**	**0.2165**	**0.7982**	**0.2036**	**0.2017**	**0.4053**	**0.0000**	**840.0303**	**840.0303**	**0.1580**	**0.0000**	**843.9796**

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					
2020	0.9441	4.0648	5.5176	9.4000e-003	0.3786	0.0837	0.4623	0.0902	0.0799	0.1701	0.0000	846.1988	846.1988	0.1600	0.0000	850.1980
2021	0.7893	0.2568	0.3904	6.8000e-004	0.0202	4.7900e-003	0.0250	5.3900e-003	4.7800e-003	0.0102	0.0000	59.7065	59.7065	0.0114	0.0000	59.9919
Maximum	**0.9441**	**4.0648**	**5.5176**	**9.4000e-003**	**0.3786**	**0.0837**	**0.4623**	**0.0902**	**0.0799**	**0.1701**	**0.0000**	**846.1988**	**846.1988**	**0.1600**	**0.0000**	**850.1980**

	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	**10.92**	**23.65**	**-37.48**	**0.00**	**33.75**	**62.00**	**41.63**	**54.26**	**60.95**	**57.67**	**0.00**	**-0.69**	**-0.69**	**-1.17**	**0.00**	**-0.69**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2020	6-30-2020	2.7927	1.7229
2	7-1-2020	9-30-2020	2.0015	1.7203
3	10-1-2020	12-31-2020	1.6979	1.5512
4	1-1-2021	3-31-2021	1.0968	1.0433

		Highest	2.7927	1.7229

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2020	4/28/2020	5	20	
2	Grading	Grading	5/1/2020	6/25/2020	5	40	
3	Trenching	Trenching	6/1/2020	6/26/2020	5	20	
4	Building Construction	Building Construction	7/1/2020	11/17/2020	5	100	
5	Interior Construction	Architectural Coating	11/1/2020	3/19/2021	5	100	
6	Paving	Paving	1/1/2021	2/25/2021	5	40	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 160

Acres of Paving: 5.12

Residential Indoor: 751,275; Residential Outdoor: 250,425; Non-Residential Indoor: 7,350; Non-Residential Outdoor: 2,450; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	3	8.00	367	0.48
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40

Grading	Scrapers	3	8.00	367	0.48
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Aerial Lifts	4	8.00	63	0.31
Building Construction	Cranes	2	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Other Construction Equipment	3	8.00	172	0.42
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	4.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Interior Construction	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	9	23.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	2,615.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	18	365.00	78.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Interior Construction	1	73.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching			0.00	0.00	10.80	7.30				

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 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					0.1629	0.0000	0.1629	0.0708	0.0000	0.0708	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0638	0.7374	0.3794	8.1000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	71.1424	71.1424	0.0230	0.0000	71.7176
Total	**0.0638**	**0.7374**	**0.3794**	**8.1000e-004**	**0.1629**	**0.0307**	**0.1936**	**0.0708**	**0.0282**	**0.0990**	**0.0000**	**71.1424**	**71.1424**	**0.0230**	**0.0000**	**71.7176**

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	7.6000e-004	5.5000e-004	5.7600e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5643	1.5643	4.0000e-005	0.0000	1.5653

Total	**7.6000e-004**	**5.5000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5643**	**1.5643**	**4.0000e-005**	**0.0000**	**1.5653**

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					0.0733	0.0000	0.0733	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.3888	0.4424	8.1000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	71.1423	71.1423	0.0230	0.0000	71.7175
Total	**0.0199**	**0.3888**	**0.4424**	**8.1000e-004**	**0.0733**	**2.3500e-003**	**0.0756**	**0.0159**	**2.3500e-003**	**0.0183**	**0.0000**	**71.1423**	**71.1423**	**0.0230**	**0.0000**	**71.7175**

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	7.6000e-004	5.5000e-004	5.7600e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5643	1.5643	4.0000e-005	0.0000	1.5653
Total	**7.6000e-004**	**5.5000e-004**	**5.7600e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5643**	**1.5643**	**4.0000e-005**	**0.0000**	**1.5653**

3.3 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					0.2065	0.0000	0.2065	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1295	1.4744	0.9223	1.8100e-003		0.0640	0.0640		0.0589	0.0589	0.0000	159.1077	159.1077	0.0515	0.0000	160.3941
Total	**0.1295**	**1.4744**	**0.9223**	**1.8100e-003**	**0.2065**	**0.0640**	**0.2705**	**0.0755**	**0.0589**	**0.1344**	**0.0000**	**159.1077**	**159.1077**	**0.0515**	**0.0000**	**160.3941**

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	0.0109	0.3794	0.0777	1.0300e-003	0.0222	1.2300e-003	0.0234	6.0900e-003	1.1800e-003	7.2700e-003	0.0000	99.7241	99.7241	4.5600e-003	0.0000	99.8381
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	2.1900e-003	1.5800e-003	0.0165	5.0000e-005	5.2300e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.4890	4.4890	1.1000e-004	0.0000	4.4917
Total	**0.0131**	**0.3810**	**0.0942**	**1.0800e-003**	**0.0274**	**1.2600e-003**	**0.0287**	**7.4800e-003**	**1.2100e-003**	**8.6900e-003**	**0.0000**	**104.2131**	**104.2131**	**4.6700e-003**	**0.0000**	**104.3299**

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					0.0929	0.0000	0.0929	0.0170	0.0000	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0445	0.8822	1.0687	1.8100e-003		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	159.1075	159.1075	0.0515	0.0000	160.3939
Total	**0.0445**	**0.8822**	**1.0687**	**1.8100e-003**	**0.0929**	**5.8700e-003**	**0.0988**	**0.0170**	**5.8700e-003**	**0.0229**	**0.0000**	**159.1075**	**159.1075**	**0.0515**	**0.0000**	**160.3939**

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	0.0109	0.3794	0.0777	1.0300e-003	0.0222	1.2300e-003	0.0234	6.0900e-003	1.1800e-003	7.2700e-003	0.0000	99.7241	99.7241	4.5600e-003	0.0000	99.8381
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	2.1900e-003	1.5800e-003	0.0165	5.0000e-005	5.2300e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.4890	4.4890	1.1000e-004	0.0000	4.4917
Total	**0.0131**	**0.3810**	**0.0942**	**1.0800e-003**	**0.0274**	**1.2600e-003**	**0.0287**	**7.4800e-003**	**1.2100e-003**	**8.6900e-003**	**0.0000**	**104.2131**	**104.2131**	**4.6700e-003**	**0.0000**	**104.3299**

3.4 Trenching - 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
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
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
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**

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
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
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
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**

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	0.2478	2.2418	1.8784	3.0600e-003		0.1149	0.1149		0.1079	0.1079	0.0000	261.3725	261.3725	0.0704	0.0000	263.1319
Total	**0.2478**	**2.2418**	**1.8784**	**3.0600e-003**		**0.1149**	**0.1149**		**0.1079**	**0.1079**	**0.0000**	**261.3725**	**261.3725**	**0.0704**	**0.0000**	**263.1319**

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	0.0155	0.4441	0.1183	1.0600e-003	0.0257	2.2000e-003	0.0279	7.4200e-003	2.1000e-003	9.5200e-003	0.0000	101.9627	101.9627	4.6800e-003	0.0000	102.0796
Worker	0.0606	0.0436	0.4567	1.3700e-003	0.1447	9.4000e-004	0.1457	0.0385	8.6000e-004	0.0394	0.0000	124.1273	124.1273	3.0400e-003	0.0000	124.2034
Total	**0.0761**	**0.4876**	**0.5750**	**2.4300e-003**	**0.1704**	**3.1400e-003**	**0.1735**	**0.0459**	**2.9600e-003**	**0.0489**	**0.0000**	**226.0900**	**226.0900**	**7.7200e-003**	**0.0000**	**226.2830**

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	0.1781	1.8837	3.2511	3.0600e-003		0.0686	0.0686		0.0650	0.0650	0.0000	267.5413	267.5413	0.0724	0.0000	269.3505
Total	**0.1781**	**1.8837**	**3.2511**	**3.0600e-003**		**0.0686**	**0.0686**		**0.0650**	**0.0650**	**0.0000**	**267.5413**	**267.5413**	**0.0724**	**0.0000**	**269.3505**

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	0.0155	0.4441	0.1183	1.0600e-003	0.0257	2.2000e-003	0.0279	7.4200e-003	2.1000e-003	9.5200e-003	0.0000	101.9627	101.9627	4.6800e-003	0.0000	102.0796
Worker	0.0606	0.0436	0.4567	1.3700e-003	0.1447	9.4000e-004	0.1457	0.0385	8.6000e-004	0.0394	0.0000	124.1273	124.1273	3.0400e-003	0.0000	124.2034
Total	**0.0761**	**0.4876**	**0.5750**	**2.4300e-003**	**0.1704**	**3.1400e-003**	**0.1735**	**0.0459**	**2.9600e-003**	**0.0489**	**0.0000**	**226.0900**	**226.0900**	**7.7200e-003**	**0.0000**	**226.2830**

3.6 Interior 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					
Archit. Coating	0.6011					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3300e-003	0.0370	0.0403	7.0000e-005		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	5.6172	5.6172	4.3000e-004	0.0000	5.6280
Total	**0.6065**	**0.0370**	**0.0403**	**7.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.4400e-003**	**2.4400e-003**	**0.0000**	**5.6172**	**5.6172**	**4.3000e-004**	**0.0000**	**5.6280**

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	5.3300e-003	3.8300e-003	0.0402	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	8.0000e-005	3.4600e-003	0.0000	10.9232	10.9232	2.7000e-004	0.0000	10.9299
Total	**5.3300e-003**	**3.8300e-003**	**0.0402**	**1.2000e-004**	**0.0127**	**8.0000e-005**	**0.0128**	**3.3900e-003**	**8.0000e-005**	**3.4600e-003**	**0.0000**	**10.9232**	**10.9232**	**2.7000e-004**	**0.0000**	**10.9299**

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	0.6011					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3300e-003	0.0370	0.0403	7.0000e-005		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	5.6172	5.6172	4.3000e-004	0.0000	5.6280
Total	**0.6065**	**0.0370**	**0.0403**	**7.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.4400e-003**	**2.4400e-003**	**0.0000**	**5.6172**	**5.6172**	**4.3000e-004**	**0.0000**	**5.6280**

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	5.3300e-003	3.8300e-003	0.0402	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	8.0000e-005	3.4600e-003	0.0000	10.9232	10.9232	2.7000e-004	0.0000	10.9299
Total	**5.3300e-003**	**3.8300e-003**	**0.0402**	**1.2000e-004**	**0.0127**	**8.0000e-005**	**0.0128**	**3.3900e-003**	**8.0000e-005**	**3.4600e-003**	**0.0000**	**10.9232**	**10.9232**	**2.7000e-004**	**0.0000**	**10.9299**

3.6 Interior 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					
Archit. Coating	0.7651					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1300e-003	0.0428	0.0509	8.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	7.1491	7.1491	4.9000e-004	0.0000	7.1614
Total	**0.7712**	**0.0428**	**0.0509**	**8.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**7.1491**	**7.1491**	**4.9000e-004**	**0.0000**	**7.1614**

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	6.3000e-003	4.3600e-003	0.0468	1.5000e-004	0.0162	1.0000e-004	0.0163	4.3100e-003	9.0000e-005	4.4100e-003	0.0000	13.4197	13.4197	3.1000e-004	0.0000	13.4273
Total	**6.3000e-003**	**4.3600e-003**	**0.0468**	**1.5000e-004**	**0.0162**	**1.0000e-004**	**0.0163**	**4.3100e-003**	**9.0000e-005**	**4.4100e-003**	**0.0000**	**13.4197**	**13.4197**	**3.1000e-004**	**0.0000**	**13.4273**

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	0.7651					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1300e-003	0.0428	0.0509	8.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	7.1491	7.1491	4.9000e-004	0.0000	7.1614

Total	**0.7712**	**0.0428**	**0.0509**	**8.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**7.1491**	**7.1491**	**4.9000e-004**	**0.0000**	**7.1614**

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	6.3000e-003	4.3600e-003	0.0468	1.5000e-004	0.0162	1.0000e-004	0.0163	4.3100e-003	9.0000e-005	4.4100e-003	0.0000	13.4197	13.4197	3.1000e-004	0.0000	13.4273
Total	**6.3000e-003**	**4.3600e-003**	**0.0468**	**1.5000e-004**	**0.0162**	**1.0000e-004**	**0.0163**	**4.3100e-003**	**9.0000e-005**	**4.4100e-003**	**0.0000**	**13.4197**	**13.4197**	**3.1000e-004**	**0.0000**	**13.4273**

3.7 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	0.0240	0.2351	0.2519	3.8000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	32.7464	32.7464	0.0104	0.0000	33.0062
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0240**	**0.2351**	**0.2519**	**3.8000e-004**		**0.0136**	**0.0136**		**0.0125**	**0.0125**	**0.0000**	**32.7464**	**32.7464**	**0.0104**	**0.0000**	**33.0062**

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	3.9000e-004	0.0134	2.9100e-003	4.0000e-005	8.5000e-004	4.0000e-005	8.9000e-004	2.3000e-004	4.0000e-005	2.7000e-004	0.0000	3.7652	3.7652	1.7000e-004	0.0000	3.7694
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	1.2300e-003	8.5000e-004	9.1500e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.6262	2.6262	6.0000e-005	0.0000	2.6277
Total	**1.6200e-003**	**0.0142**	**0.0121**	**7.0000e-005**	**4.0200e-003**	**6.0000e-005**	**4.0800e-003**	**1.0700e-003**	**6.0000e-005**	**1.1300e-003**	**0.0000**	**6.3913**	**6.3913**	**2.3000e-004**	**0.0000**	**6.3971**

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	0.0101	0.1955	0.2806	3.8000e-004		1.9900e-003	1.9900e-003		1.9900e-003	1.9900e-003	0.0000	32.7464	32.7464	0.0104	0.0000	33.0061
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0102**	**0.1955**	**0.2806**	**3.8000e-004**		**1.9900e-003**	**1.9900e-003**		**1.9900e-003**	**1.9900e-003**	**0.0000**	**32.7464**	**32.7464**	**0.0104**	**0.0000**	**33.0061**

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	3.9000e-004	0.0134	2.9100e-003	4.0000e-005	8.5000e-004	4.0000e-005	8.9000e-004	2.3000e-004	4.0000e-005	2.7000e-004	0.0000	3.7652	3.7652	1.7000e-004	0.0000	3.7694
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	1.2300e-003	8.5000e-004	9.1500e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.6262	2.6262	6.0000e-005	0.0000	2.6277
Total	**1.6200e-003**	**0.0142**	**0.0121**	**7.0000e-005**	**4.0200e-003**	**6.0000e-005**	**4.0800e-003**	**1.0700e-003**	**6.0000e-005**	**1.1300e-003**	**0.0000**	**6.3913**	**6.3913**	**2.3000e-004**	**0.0000**	**6.3971**

Gateway Crossings, Phase 4 Criteria and Operational Emissions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	764.00	Space	6.88	314,135.00	0
Parking Lot	4.00	Space	0.04	1,600.00	0
Apartments Mid Rise	513.00	Dwelling Unit	13.50	513,000.00	1467

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
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 - PG&E used to represent SVP (Silicon Valley Power. Current CO2 emission factor from City of Santa Clara 2020 Climate Action Plan

Land Use - Applicant provided project description

Construction Phase - Applicant provided construction schedule

Off-road Equipment -

Off-road Equipment - Applicant provided equipment information

Off-road Equipment - Applicant provided list

Off-road Equipment - Applicant provided equipment information

Off-road Equipment - Applicant provided equipment information

Off-road Equipment - Applicant provided equipment infromation

Off-road Equipment - Applicant provided equipment information

Trips and VMT - Paving trips= 800 cy= 100 trips

Grading - 18459 cy of soil export

Vehicle Trips - From Project Traffic Report

Woodstoves - No woodstoves or wood based fireplaces

Energy Use - Title 24,2013 values used

Construction Off-road Equipment Mitigation - Tier 2 Mitigation and Best Management practices

Energy Mitigation - Title 24, 2016 came into effect on 1st January, 2017

Architectural Coating - Assume 50% reduction with super compliant VOC paints

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	75.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	370.00	160.00
tblConstructionPhase	NumDays	20.00	140.00
tblConstructionPhase	NumDays	20.00	60.00
tblGrading	MaterialExported	0.00	18,459.00
tblLandUse	LandUseSquareFeet	305,600.00	314,135.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.40
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	380

tblTripsAndVMT	HaulingTripNumber	0.00	100.00

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					
2022	1.5136	6.0118	5.5517	0.0141	0.8853	0.2264	1.1116	0.2954	0.2111	0.5064	0.0000	1,255.3966	1,255.3966	0.2150	0.0000	1,260.7710
2023	1.0645	0.6298	0.8295	1.6700e-003	0.0513	0.0294	0.0807	0.0137	0.0274	0.0411	0.0000	148.0959	148.0959	0.0289	0.0000	148.8174
Maximum	**1.5136**	**6.0118**	**5.5517**	**0.0141**	**0.8853**	**0.2264**	**1.1116**	**0.2954**	**0.2111**	**0.5064**	**0.0000**	**1,255.3966**	**1,255.3966**	**0.2150**	**0.0000**	**1,260.7710**

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					
2022	1.1181	2.1495	6.0182	0.0141	0.6258	9.9000e-003	0.6357	0.1528	9.6300e-003	0.1624	0.0000	1,255.3957	1,255.3957	0.2150	0.0000	1,260.7702
2023	1.0179	0.1959	0.9060	1.6700e-003	0.0513	9.8000e-004	0.0523	0.0137	9.6000e-004	0.0147	0.0000	148.0958	148.0958	0.0289	0.0000	148.8173
Maximum	**1.1181**	**2.1495**	**6.0182**	**0.0141**	**0.6258**	**9.9000e-003**	**0.6357**	**0.1528**	**9.6300e-003**	**0.1624**	**0.0000**	**1,255.3957**	**1,255.3957**	**0.2150**	**0.0000**	**1,260.7702**

	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	**17.15**	**64.69**	**-8.51**	**0.00**	**27.71**	**95.75**	**42.31**	**46.14**	**95.56**	**67.66**	**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	3-1-2022	5-31-2022	2.2090	0.4578
2	6-1-2022	8-31-2022	2.1561	0.8901
3	9-1-2022	11-30-2022	2.2709	1.3585
4	12-1-2022	2-28-2023	1.8416	1.2635
5	3-1-2023	5-31-2023	0.7421	0.5115
		Highest	2.2709	1.3585

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2022	3/28/2022	5	20	
2	Grading	Grading	4/1/2022	6/23/2022	5	60	
3	Trenching	Trenching	5/1/2022	6/24/2022	5	40	
4	Building Construction	Building Construction	6/1/2022	1/10/2023	5	160	
5	Building Interior	Architectural Coating	10/1/2022	4/14/2023	5	140	
6	Paving	Paving	2/1/2023	4/25/2023	5	60	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 240

Acres of Paving: 6.92

Residential Indoor: 1,038,825; Residential Outdoor: 346,275; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	3	8.00	367	0.48

Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	3	8.00	367	0.48
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Aerial Lifts	3	8.00	63	0.31
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Other Construction Equipment	3	8.00	172	0.42
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	5.30	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Paving	Tractors/Loaders/Backhoes	1	5.30	97	0.37
Building Interior	Aerial Lifts	1	8.00	63	0.31
Building Interior	Air Compressors	2	3.40	78	0.48
Building Interior	Cranes	1	4.60	231	0.29
Building Interior	Forklifts	1	8.00	89	0.20

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	9	23.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	2,307.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	17	502.00	107.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior	5	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching			0.00	0.00	10.80	7.30				

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					
Fugitive Dust					0.1629	0.0000	0.1629	0.0708	0.0000	0.0708	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0520	0.5754	0.3336	8.1000e-004		0.0234	0.0234		0.0215	0.0215	0.0000	71.2062	71.2062	0.0230	0.0000	71.7819
Total	**0.0520**	**0.5754**	**0.3336**	**8.1000e-004**	**0.1629**	**0.0234**	**0.1863**	**0.0708**	**0.0215**	**0.0923**	**0.0000**	**71.2062**	**71.2062**	**0.0230**	**0.0000**	**71.7819**

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	6.6000e-004	4.4000e-004	4.8400e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4552	1.4552	3.0000e-005	0.0000	1.4560
Total	**6.6000e-004**	**4.4000e-004**	**4.8400e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4552**	**1.4552**	**3.0000e-005**	**0.0000**	**1.4560**

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					0.0733	0.0000	0.0733	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0536	0.3803	8.1000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	71.2061	71.2061	0.0230	0.0000	71.7819
Total	**0.0102**	**0.0536**	**0.3803**	**8.1000e-004**	**0.0733**	**2.0000e-004**	**0.0735**	**0.0159**	**2.0000e-004**	**0.0161**	**0.0000**	**71.2061**	**71.2061**	**0.0230**	**0.0000**	**71.7819**

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	6.6000e-004	4.4000e-004	4.8400e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4552	1.4552	3.0000e-005	0.0000	1.4560
Total	**6.6000e-004**	**4.4000e-004**	**4.8400e-003**	**2.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4552**	**1.4552**	**3.0000e-005**	**0.0000**	**1.4560**

3.3 Grading - 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					
Fugitive Dust					0.3090	0.0000	0.3090	0.1132	0.0000	0.1132	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1587	1.7266	1.2578	2.7200e-003		0.0725	0.0725		0.0667	0.0667	0.0000	238.8577	238.8577	0.0773	0.0000	240.7890
Total	**0.1587**	**1.7266**	**1.2578**	**2.7200e-003**	**0.3090**	**0.0725**	**0.3814**	**0.1132**	**0.0667**	**0.1799**	**0.0000**	**238.8577**	**238.8577**	**0.0773**	**0.0000**	**240.7890**

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	8.5200e-003	0.2833	0.0661	8.8000e-004	0.0196	8.2000e-004	0.0204	5.3800e-003	7.9000e-004	6.1700e-003	0.0000	85.6913	85.6913	3.8500e-003	0.0000	85.7876
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	2.8500e-003	1.8900e-003	0.0208	7.0000e-005	7.8500e-003	5.0000e-005	7.9000e-003	2.0900e-003	4.0000e-005	2.1300e-003	0.0000	6.2637	6.2637	1.3000e-004	0.0000	6.2670
Total	**0.0114**	**0.2852**	**0.0869**	**9.5000e-004**	**0.0274**	**8.7000e-004**	**0.0283**	**7.4700e-003**	**8.3000e-004**	**8.3000e-003**	**0.0000**	**91.9550**	**91.9550**	**3.9800e-003**	**0.0000**	**92.0546**

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					0.1390	0.0000	0.1390	0.0255	0.0000	0.0255	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.2148	1.4378	2.7200e-003		6.7000e-004	6.7000e-004		6.7000e-004	6.7000e-004	0.0000	238.8575	238.8575	0.0773	0.0000	240.7887
Total	**0.0351**	**0.2148**	**1.4378**	**2.7200e-003**	**0.1390**	**6.7000e-004**	**0.1397**	**0.0255**	**6.7000e-004**	**0.0261**	**0.0000**	**238.8575**	**238.8575**	**0.0773**	**0.0000**	**240.7887**

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	8.5200e-003	0.2833	0.0661	8.8000e-004	0.0196	8.2000e-004	0.0204	5.3800e-003	7.9000e-004	6.1700e-003	0.0000	85.6913	85.6913	3.8500e-003	0.0000	85.7876
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	2.8500e-003	1.8900e-003	0.0208	7.0000e-005	7.8500e-003	5.0000e-005	7.9000e-003	2.0900e-003	4.0000e-005	2.1300e-003	0.0000	6.2637	6.2637	1.3000e-004	0.0000	6.2670
Total	**0.0114**	**0.2852**	**0.0869**	**9.5000e-004**	**0.0274**	**8.7000e-004**	**0.0283**	**7.4700e-003**	**8.3000e-004**	**8.3000e-003**	**0.0000**	**91.9550**	**91.9550**	**3.9800e-003**	**0.0000**	**92.0546**

3.4 Trenching - 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
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
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
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**

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
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
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
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**

3.5 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	0.2733	2.3669	2.6067	4.1300e-003		0.1171	0.1171		0.1102	0.1102	0.0000	350.3490	350.3490	0.0896	0.0000	352.5902

Total	**0.2733**	**2.3669**	**2.6067**	**4.1300e-003**		**0.1171**	**0.1171**		**0.1102**	**0.1102**	**0.0000**	**350.3490**	**350.3490**	**0.0896**	**0.0000**	**352.5902**

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	0.0249	0.7951	0.2109	2.1900e-003	0.0539	1.6200e-003	0.0555	0.0156	1.5500e-003	0.0171	0.0000	210.0000	210.0000	8.8200e-003	0.0000	210.2206
Worker	0.1104	0.0735	0.8075	2.6900e-003	0.3046	1.8700e-003	0.3065	0.0810	1.7300e-003	0.0827	0.0000	242.9734	242.9734	5.1400e-003	0.0000	243.1019
Total	**0.1353**	**0.8686**	**1.0183**	**4.8800e-003**	**0.3584**	**3.4900e-003**	**0.3619**	**0.0966**	**3.2800e-003**	**0.0999**	**0.0000**	**452.9734**	**452.9734**	**0.0140**	**0.0000**	**453.3226**

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	0.0582	0.6768	2.8265	4.1300e-003		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	350.3486	350.3486	0.0896	0.0000	352.5897
Total	**0.0582**	**0.6768**	**2.8265**	**4.1300e-003**		**4.2200e-003**	**4.2200e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**350.3486**	**350.3486**	**0.0896**	**0.0000**	**352.5897**

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	0.0249	0.7951	0.2109	2.1900e-003	0.0539	1.6200e-003	0.0555	0.0156	1.5500e-003	0.0171	0.0000	210.0000	210.0000	8.8200e-003	0.0000	210.2206
Worker	0.1104	0.0735	0.8075	2.6900e-003	0.3046	1.8700e-003	0.3065	0.0810	1.7300e-003	0.0827	0.0000	242.9734	242.9734	5.1400e-003	0.0000	243.1019
Total	**0.1353**	**0.8686**	**1.0183**	**4.8800e-003**	**0.3584**	**3.4900e-003**	**0.3619**	**0.0966**	**3.2800e-003**	**0.0999**	**0.0000**	**452.9734**	**452.9734**	**0.0140**	**0.0000**	**453.3226**

3.5 Building Construction - 2023

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	0.0115	0.0999	0.1185	1.9000e-004		4.7100e-003	4.7100e-003		4.4300e-003	4.4300e-003	0.0000	16.0294	16.0294	4.0700e-003	0.0000	16.1311
Total	**0.0115**	**0.0999**	**0.1185**	**1.9000e-004**		**4.7100e-003**	**4.7100e-003**		**4.4300e-003**	**4.4300e-003**	**0.0000**	**16.0294**	**16.0294**	**4.0700e-003**	**0.0000**	**16.1311**

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	8.6000e-004	0.0276	8.6700e-003	1.0000e-004	2.4600e-003	3.0000e-005	2.5000e-003	7.1000e-004	3.0000e-005	7.4000e-004	0.0000	9.3347	9.3347	3.4000e-004	0.0000	9.3433
Worker	4.7300e-003	3.0200e-003	0.0340	1.2000e-004	0.0139	8.0000e-005	0.0140	3.7100e-003	8.0000e-005	3.7800e-003	0.0000	10.6942	10.6942	2.1000e-004	0.0000	10.6994
Total	**5.5900e-003**	**0.0306**	**0.0427**	**2.2000e-004**	**0.0164**	**1.1000e-004**	**0.0165**	**4.4200e-003**	**1.1000e-004**	**4.5200e-003**	**0.0000**	**20.0289**	**20.0289**	**5.5000e-004**	**0.0000**	**20.0427**

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	2.6600e-003	0.0310	0.1293	1.9000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	16.0294	16.0294	4.0700e-003	0.0000	16.1311
Total	**2.6600e-003**	**0.0310**	**0.1293**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**16.0294**	**16.0294**	**4.0700e-003**	**0.0000**	**16.1311**

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	8.6000e-004	0.0276	8.6700e-003	1.0000e-004	2.4600e-003	3.0000e-005	2.5000e-003	7.1000e-004	3.0000e-005	7.4000e-004	0.0000	9.3347	9.3347	3.4000e-004	0.0000	9.3433
Worker	4.7300e-003	3.0200e-003	0.0340	1.2000e-004	0.0139	8.0000e-005	0.0140	3.7100e-003	8.0000e-005	3.7800e-003	0.0000	10.6942	10.6942	2.1000e-004	0.0000	10.6994
Total	**5.5900e-003**	**0.0306**	**0.0427**	**2.2000e-004**	**0.0164**	**1.1000e-004**	**0.0165**	**4.4200e-003**	**1.1000e-004**	**4.5200e-003**	**0.0000**	**20.0289**	**20.0289**	**5.5000e-004**	**0.0000**	**20.0427**

3.6 Building Interior - 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	0.8536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.1826	0.1752	3.2000e-004		8.8700e-003	8.8700e-003		8.4000e-003	8.4000e-003	0.0000	28.0374	28.0374	6.6400e-003	0.0000	28.2034
Total	**0.8730**	**0.1826**	**0.1752**	**3.2000e-004**		**8.8700e-003**	**8.8700e-003**		**8.4000e-003**	**8.4000e-003**	**0.0000**	**28.0374**	**28.0374**	**6.6400e-003**	**0.0000**	**28.2034**

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	9.3400e-003	6.2200e-003	0.0683	2.3000e-004	0.0258	1.6000e-004	0.0259	6.8600e-003	1.5000e-004	7.0000e-003	0.0000	20.5626	20.5626	4.4000e-004	0.0000	20.5734
Total	**9.3400e-003**	**6.2200e-003**	**0.0683**	**2.3000e-004**	**0.0258**	**1.6000e-004**	**0.0259**	**6.8600e-003**	**1.5000e-004**	**7.0000e-003**	**0.0000**	**20.5626**	**20.5626**	**4.4000e-004**	**0.0000**	**20.5734**

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	0.8536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3700e-003	0.0438	0.1952	3.2000e-004		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	28.0374	28.0374	6.6400e-003	0.0000	28.2033
Total	**0.8580**	**0.0438**	**0.1952**	**3.2000e-004**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**28.0374**	**28.0374**	**6.6400e-003**	**0.0000**	**28.2033**

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	9.3400e-003	6.2200e-003	0.0683	2.3000e-004	0.0258	1.6000e-004	0.0259	6.8600e-003	1.5000e-004	7.0000e-003	0.0000	20.5626	20.5626	4.4000e-004	0.0000	20.5734
Total	**9.3400e-003**	**6.2200e-003**	**0.0683**	**2.3000e-004**	**0.0258**	**1.6000e-004**	**0.0259**	**6.8600e-003**	**1.5000e-004**	**7.0000e-003**	**0.0000**	**20.5626**	**20.5626**	**4.4000e-004**	**0.0000**	**20.5734**

3.6 Building Interior - 2023

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	0.9849					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0209	0.1936	0.2004	3.7000e-004		9.0100e-003	9.0100e-003		8.5300e-003	8.5300e-003	0.0000	32.3507	32.3507	7.6000e-003	0.0000	32.5407
Total	**1.0058**	**0.1936**	**0.2004**	**3.7000e-004**		**9.0100e-003**	**9.0100e-003**		**8.5300e-003**	**8.5300e-003**	**0.0000**	**32.3507**	**32.3507**	**7.6000e-003**	**0.0000**	**32.5407**

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	0.0101	6.4500e-003	0.0725	2.5000e-004	0.0297	1.8000e-004	0.0299	7.9100e-003	1.7000e-004	8.0800e-003	0.0000	22.8248	22.8248	4.5000e-004	0.0000	22.8360
Total	**0.0101**	**6.4500e-003**	**0.0725**	**2.5000e-004**	**0.0297**	**1.8000e-004**	**0.0299**	**7.9100e-003**	**1.7000e-004**	**8.0800e-003**	**0.0000**	**22.8248**	**22.8248**	**4.5000e-004**	**0.0000**	**22.8360**

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	0.9849					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0500e-003	0.0506	0.2253	3.7000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	32.3506	32.3506	7.6000e-003	0.0000	32.5407
Total	**0.9900**	**0.0506**	**0.2253**	**3.7000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**32.3506**	**32.3506**	**7.6000e-003**	**0.0000**	**32.5407**

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	0.0101	6.4500e-003	0.0725	2.5000e-004	0.0297	1.8000e-004	0.0299	7.9100e-003	1.7000e-004	8.0800e-003	0.0000	22.8248	22.8248	4.5000e-004	0.0000	22.8360
Total	**0.0101**	**6.4500e-003**	**0.0725**	**2.5000e-004**	**0.0297**	**1.8000e-004**	**0.0299**	**7.9100e-003**	**1.7000e-004**	**8.0800e-003**	**0.0000**	**22.8248**	**22.8248**	**4.5000e-004**	**0.0000**	**22.8360**

3.7 Paving - 2023

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	0.0297	0.2902	0.3824	5.7000e-004		0.0154	0.0154		0.0142	0.0142	0.0000	50.0041	50.0041	0.0160	0.0000	50.4035
Paving	5.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0298**	**0.2902**	**0.3824**	**5.7000e-004**		**0.0154**	**0.0154**		**0.0142**	**0.0142**	**0.0000**	**50.0041**	**50.0041**	**0.0160**	**0.0000**	**50.4035**

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	2.5000e-004	8.0800e-003	2.6000e-003	4.0000e-005	8.5000e-004	1.0000e-005	8.6000e-004	2.3000e-004	1.0000e-005	2.5000e-004	0.0000	3.5713	3.5713	1.5000e-004	0.0000	3.5751
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	1.4500e-003	9.3000e-004	0.0105	4.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.2868	3.2868	6.0000e-005	0.0000	3.2884
Total	**1.7000e-003**	**9.0100e-003**	**0.0131**	**8.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3700e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**6.8581**	**6.8581**	**2.1000e-004**	**0.0000**	**6.8635**

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	7.8000e-003	0.0684	0.4231	5.7000e-004		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	50.0041	50.0041	0.0160	0.0000	50.4034
Paving	5.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.8500e-003**	**0.0684**	**0.4231**	**5.7000e-004**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**50.0041**	**50.0041**	**0.0160**	**0.0000**	**50.4034**

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	2.5000e-004	8.0800e-003	2.6000e-003	4.0000e-005	8.5000e-004	1.0000e-005	8.6000e-004	2.3000e-004	1.0000e-005	2.5000e-004	0.0000	3.5713	3.5713	1.5000e-004	0.0000	3.5751
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	1.4500e-003	9.3000e-004	0.0105	4.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.2868	3.2868	6.0000e-005	0.0000	3.2884
Total	**1.7000e-003**	**9.0100e-003**	**0.0131**	**8.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3700e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**6.8581**	**6.8581**	**2.1000e-004**	**0.0000**	**6.8635**

Gateway Crossings, Phase 5,Criteria and Operational emissions - Santa Clara County, Annual

Gateway Crossings, Phase 5,Criteria and Operational emissions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	339.00	Space	3.05	133,702.00	0
Hotel	225.00	Room	7.50	326,700.00	0
Strip Mall	5.20	1000sqft	0.12	5,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
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 - PG&E used to represent SVP (Silicon Valley Power).CO2 emission factor from City of Santa Clara 2020 Climate Action Plan

Land Use - Land Use Sizes frim construction infromation provided by project applicant

Construction Phase - Applicant provided construction schedule

Off-road Equipment -

Off-road Equipment - applicant provided information

Off-road Equipment - applicant provided list

Off-road Equipment - Applicant provided euqipment information

Off-road Equipment - Applicant provided information

Off-road Equipment - Applicant provided construction information

Off-road Equipment - Applicant provided equipment information

Trips and VMT - 100 paving trips based on 800 cy of asphalt hauled

Grading - 7585 cy of soil off haul

Architectural Coating - Low VOC paints assume 50% reduction

Vehicle Trips - trip rates from TIA

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Area Coating -

Landscape Equipment -

Energy Use - default 2013, title 24 values used

Construction Off-road Equipment Mitigation - BMPs Tier 3/DPF 3 & CNG

Area Mitigation -

Energy Mitigation - title 24, 2016 values became effective on 1st January ,2017

Stationary Sources - Emergency Generators and Fire Pumps - 100 kw generator in the garage

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	75.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	200.00
tblConstructionPhase	NumDays	20.00	60.00
tblGrading	MaterialExported	0.00	7,585.00
tblLandUse	LandUseSquareFeet	135,600.00	133,702.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	2.40
tblOffRoadEquipment	UsageHours	7.00	4.30
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	380
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	134.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00

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					
2024	0.9082	4.7034	5.1637	0.0119	0.5164	0.1779	0.6943	0.1765	0.1665	0.3430	0.0000	1,049.6891	1,049.6891	0.1909	0.0000	1,054.4627
2025	0.6842	1.5896	2.1093	4.4700e-003	0.1065	0.0601	0.1666	0.0288	0.0563	0.0852	0.0000	394.2814	394.2814	0.0692	0.0000	396.0104
Maximum	**0.9082**	**4.7034**	**5.1637**	**0.0119**	**0.5164**	**0.1779**	**0.6943**	**0.1765**	**0.1665**	**0.3430**	**0.0000**	**1,049.6891**	**1,049.6891**	**0.1909**	**0.0000**	**1,054.4627**

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					
2024	0.5695	1.7548	5.6824	0.0119	0.3701	6.5200e-003	0.3766	0.0924	6.3900e-003	0.0988	0.0000	1,049.6883	1,049.6883	0.1909	0.0000	1,054.4619
2025	0.5704	0.6798	2.2980	4.4700e-003	0.1065	2.7000e-003	0.1092	0.0288	2.6500e-003	0.0315	0.0000	394.2811	394.2811	0.0692	0.0000	396.0101
Maximum	**0.5704**	**1.7548**	**5.6824**	**0.0119**	**0.3701**	**6.5200e-003**	**0.3766**	**0.0924**	**6.3900e-003**	**0.0988**	**0.0000**	**1,049.6883**	**1,049.6883**	**0.1909**	**0.0000**	**1,054.4619**

	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	**28.41**	**61.31**	**-9.73**	**0.00**	**23.48**	**96.13**	**43.56**	**40.98**	**95.94**	**69.58**	**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	1-1-2024	3-31-2024	1.6102	0.4218
2	4-1-2024	6-30-2024	1.1387	0.4863
3	7-1-2024	9-30-2024	1.2813	0.5971
4	10-1-2024	12-31-2024	1.5554	0.8202
5	1-1-2025	3-31-2025	1.4309	0.7975
6	4-1-2025	6-30-2025	0.7575	0.4234
7	7-1-2025	9-30-2025	0.0733	0.0230
		Highest	1.6102	0.8202

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description

1	Site Preparation	Site Preparation	1/1/2024	1/26/2024	5	20	
2	Grading	Grading	2/1/2024	2/28/2024	5	20	
3	Trenching	Trenching	2/1/2024	2/28/2024	5	20	
4	Building Construction	Building Construction	3/1/2024	4/24/2025	5	300	
5	Building Interior	Architectural Coating	9/1/2024	6/6/2025	5	200	
6	Paving	Paving	5/1/2025	7/23/2025	5	60	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 80

Acres of Paving: 3.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 497,850; Non-Residential Outdoor: 165,950; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	3	8.00	367	0.48
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	3	8.00	367	0.48
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Aerial Lifts	3	5.30	63	0.31
Building Construction	Cranes	1	4.30	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20

Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Other Construction Equipment	3	8.00	172	0.42
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	2.70	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Paving	Tractors/Loaders/Backhoes	1	2.70	97	0.37
Building Interior	Aerial Lifts	1	4.80	63	0.31
Building Interior	Air Compressors	2	2.40	78	0.48
Building Interior	Cranes	1	2.40	231	0.29
Building Interior	Forklifts	1	4.80	89	0.20
Trenching	Excavators	2	8.00	158	0.38
Trenching	Rough Terrain Forklifts	1	8.00	100	0.40
Trenching	Rubber Tired Loaders	2	8.00	203	0.36
Trenching	Skid Steer Loaders	1	8.00	65	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	9	23.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	948.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	17	195.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior	5	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2024

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					0.1629	0.0000	0.1629	0.0708	0.0000	0.0708	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0459	0.4793	0.3110	8.1000e-004		0.0192	0.0192		0.0176	0.0176	0.0000	71.1651	71.1651	0.0230	0.0000	71.7405
Total	**0.0459**	**0.4793**	**0.3110**	**8.1000e-004**	**0.1629**	**0.0192**	**0.1820**	**0.0708**	**0.0176**	**0.0884**	**0.0000**	**71.1651**	**71.1651**	**0.0230**	**0.0000**	**71.7405**

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	5.8000e-004	3.6000e-004	4.1300e-003	1.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.3449	1.3449	2.0000e-005	0.0000	1.3456

Total	**5.8000e-004**	**3.6000e-004**	**4.1300e-003**	**1.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8300e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.3449**	**1.3449**	**2.0000e-005**	**0.0000**	**1.3456**

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					0.0733	0.0000	0.0733	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0536	0.3803	8.1000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	71.1650	71.1650	0.0230	0.0000	71.7404
Total	**0.0102**	**0.0536**	**0.3803**	**8.1000e-004**	**0.0733**	**2.0000e-004**	**0.0735**	**0.0159**	**2.0000e-004**	**0.0161**	**0.0000**	**71.1650**	**71.1650**	**0.0230**	**0.0000**	**71.7404**

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	5.8000e-004	3.6000e-004	4.1300e-003	1.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.3449	1.3449	2.0000e-005	0.0000	1.3456
Total	**5.8000e-004**	**3.6000e-004**	**4.1300e-003**	**1.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8300e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.3449**	**1.3449**	**2.0000e-005**	**0.0000**	**1.3456**

3.3 Grading - 2024

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					0.1031	0.0000	0.1031	0.0378	0.0000	0.0378	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0472	0.4826	0.4011	9.1000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	79.5839	79.5839	0.0257	0.0000	80.2274
Total	**0.0472**	**0.4826**	**0.4011**	**9.1000e-004**	**0.1031**	**0.0199**	**0.1230**	**0.0378**	**0.0183**	**0.0561**	**0.0000**	**79.5839**	**79.5839**	**0.0257**	**0.0000**	**80.2274**

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	2.3700e-003	0.0749	0.0248	3.5000e-004	8.0400e-003	1.4000e-004	8.1800e-003	2.2100e-003	1.3000e-004	2.3400e-003	0.0000	33.6040	33.6040	1.4200e-003	0.0000	33.6395
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	8.4000e-004	5.1000e-004	5.9200e-003	2.0000e-005	2.6200e-003	2.0000e-005	2.6300e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	1.9297	1.9297	4.0000e-005	0.0000	1.9306
Total	**3.2100e-003**	**0.0755**	**0.0307**	**3.7000e-004**	**0.0107**	**1.6000e-004**	**0.0108**	**2.9100e-003**	**1.4000e-004**	**3.0500e-003**	**0.0000**	**35.5337**	**35.5337**	**1.4600e-003**	**0.0000**	**35.5701**

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					0.0464	0.0000	0.0464	8.4900e-003	0.0000	8.4900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0117	0.0716	0.4793	9.1000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	79.5838	79.5838	0.0257	0.0000	80.2273	
Total	**0.0117**	**0.0716**	**0.4793**	**9.1000e-004**	**0.0464**	**2.2000e-004**	**0.0466**	**8.4900e-003**	**2.2000e-004**	**8.7100e-003**	**0.0000**	**79.5838**	**79.5838**	**0.0257**	**0.0000**	**80.2273**	

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	2.3700e-003	0.0749	0.0248	3.5000e-004	8.0400e-003	1.4000e-004	8.1800e-003	2.2100e-003	1.3000e-004	2.3400e-003	0.0000	33.6040	33.6040	1.4200e-003	0.0000	33.6395
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	8.4000e-004	5.1000e-004	5.9200e-003	2.0000e-005	2.6200e-003	2.0000e-005	2.6300e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	1.9297	1.9297	4.0000e-005	0.0000	1.9306
Total	**3.2100e-003**	**0.0755**	**0.0307**	**3.7000e-004**	**0.0107**	**1.6000e-004**	**0.0108**	**2.9100e-003**	**1.4000e-004**	**3.0500e-003**	**0.0000**	**35.5337**	**35.5337**	**1.4600e-003**	**0.0000**	**35.5701**

3.4 Trenching - 2024

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	0.0118	0.1109	0.1543	3.1000e-004		4.2800e-003	4.2800e-003		3.9400e-003	3.9400e-003	0.0000	27.6476	27.6476	8.9400e-003	0.0000	27.8712
Total	**0.0118**	**0.1109**	**0.1543**	**3.1000e-004**		**4.2800e-003**	**4.2800e-003**		**3.9400e-003**	**3.9400e-003**	**0.0000**	**27.6476**	**27.6476**	**8.9400e-003**	**0.0000**	**27.8712**

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	2.8000e-004	3.2300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0526	1.0526	2.0000e-005	0.0000	1.0530
Total	**4.6000e-004**	**2.8000e-004**	**3.2300e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0526**	**1.0526**	**2.0000e-005**	**0.0000**	**1.0530**

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	4.1300e-003	0.0273	0.2003	3.1000e-004		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	27.6476	27.6476	8.9400e-003	0.0000	27.8711
Total	**4.1300e-003**	**0.0273**	**0.2003**	**3.1000e-004**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**27.6476**	**27.6476**	**8.9400e-003**	**0.0000**	**27.8711**

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	2.8000e-004	3.2300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0526	1.0526	2.0000e-005	0.0000	1.0530
Total	**4.6000e-004**	**2.8000e-004**	**3.2300e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0526**	**1.0526**	**2.0000e-005**	**0.0000**	**1.0530**

3.5 Building Construction - 2024

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	0.3261	2.7917	3.5180	5.5600e-003		0.1270	0.1270		0.1194	0.1194	0.0000	471.1915	471.1915	0.1168	0.0000	474.1114
Total	**0.3261**	**2.7917**	**3.5180**	**5.5600e-003**		**0.1270**	**0.1270**		**0.1194**	**0.1194**	**0.0000**	**471.1915**	**471.1915**	**0.1168**	**0.0000**	**474.1114**

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	0.0184	0.6021	0.1851	2.1300e-003	0.0545	7.0000e-004	0.0552	0.0158	6.7000e-004	0.0164	0.0000	205.1040	205.1040	7.4500e-003	0.0000	205.2901
Worker	0.0539	0.0331	0.3813	1.3700e-003	0.1686	1.0000e-003	0.1696	0.0448	9.2000e-004	0.0458	0.0000	124.2892	124.2892	2.3000e-003	0.0000	124.3467

Total	**0.0723**	**0.6352**	**0.5664**	**3.5000e-003**	**0.2231**	**1.7000e-003**	**0.2248**	**0.0606**	**1.5900e-003**	**0.0622**	**0.0000**	**329.3932**	**329.3932**	**9.7500e-003**	**0.0000**	**329.6368**

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	0.0767	0.8531	3.8264	5.5600e-003		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	471.1910	471.1910	0.1168	0.0000	474.1108
Total	**0.0767**	**0.8531**	**3.8264**	**5.5600e-003**		**3.7700e-003**	**3.7700e-003**		**3.7700e-003**	**3.7700e-003**	**0.0000**	**471.1910**	**471.1910**	**0.1168**	**0.0000**	**474.1108**

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	0.0184	0.6021	0.1851	2.1300e-003	0.0545	7.0000e-004	0.0552	0.0158	6.7000e-004	0.0164	0.0000	205.1040	205.1040	7.4500e-003	0.0000	205.2901
Worker	0.0539	0.0331	0.3813	1.3700e-003	0.1686	1.0000e-003	0.1696	0.0448	9.2000e-004	0.0458	0.0000	124.2892	124.2892	2.3000e-003	0.0000	124.3467
Total	**0.0723**	**0.6352**	**0.5664**	**3.5000e-003**	**0.2231**	**1.7000e-003**	**0.2248**	**0.0606**	**1.5900e-003**	**0.0622**	**0.0000**	**329.3932**	**329.3932**	**9.7500e-003**	**0.0000**	**329.6368**

3.5 Building Construction - 2025

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	0.1131	0.9592	1.3170	2.0900e-003		0.0413	0.0413		0.0388	0.0388	0.0000	177.2907	177.2907	0.0437	0.0000	178.3820
Total	**0.1131**	**0.9592**	**1.3170**	**2.0900e-003**		**0.0413**	**0.0413**		**0.0388**	**0.0388**	**0.0000**	**177.2907**	**177.2907**	**0.0437**	**0.0000**	**178.3820**

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	6.7300e-003	0.2235	0.0678	8.0000e-004	0.0205	2.6000e-004	0.0208	5.9300e-003	2.5000e-004	6.1800e-003	0.0000	76.6487	76.6487	2.7500e-003	0.0000	76.7173
Worker	0.0192	0.0113	0.1329	5.0000e-004	0.0634	3.7000e-004	0.0638	0.0169	3.4000e-004	0.0172	0.0000	44.8603	44.8603	7.8000e-004	0.0000	44.8799
Total	**0.0259**	**0.2348**	**0.2007**	**1.3000e-003**	**0.0839**	**6.3000e-004**	**0.0845**	**0.0228**	**5.9000e-004**	**0.0234**	**0.0000**	**121.5090**	**121.5090**	**3.5300e-003**	**0.0000**	**121.5972**

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	0.0289	0.3209	1.4393	2.0900e-003		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	177.2905	177.2905	0.0437	0.0000	178.3818
Total	**0.0289**	**0.3209**	**1.4393**	**2.0900e-003**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**177.2905**	**177.2905**	**0.0437**	**0.0000**	**178.3818**

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	6.7300e-003	0.2235	0.0678	8.0000e-004	0.0205	2.6000e-004	0.0208	5.9300e-003	2.5000e-004	6.1800e-003	0.0000	76.6487	76.6487	2.7500e-003	0.0000	76.7173
Worker	0.0192	0.0113	0.1329	5.0000e-004	0.0634	3.7000e-004	0.0638	0.0169	3.4000e-004	0.0172	0.0000	44.8603	44.8603	7.8000e-004	0.0000	44.8799
Total	**0.0259**	**0.2348**	**0.2007**	**1.3000e-003**	**0.0839**	**6.3000e-004**	**0.0845**	**0.0228**	**5.9000e-004**	**0.0234**	**0.0000**	**121.5090**	**121.5090**	**3.5300e-003**	**0.0000**	**121.5972**

3.6 Building Interior - 2024

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	0.3825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.1249	0.1444	2.6000e-004		5.5900e-003	5.5900e-003		5.3100e-003	5.3100e-003	0.0000	22.8564	22.8564	5.0200e-003	0.0000	22.9818
Total	**0.3965**	**0.1249**	**0.1444**	**2.6000e-004**		**5.5900e-003**	**5.5900e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**22.8564**	**22.8564**	**5.0200e-003**	**0.0000**	**22.9818**

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-003	2.6400e-003	0.0304	1.1000e-004	0.0135	8.0000e-005	0.0135	3.5800e-003	7.0000e-005	3.6500e-003	0.0000	9.9203	9.9203	1.8000e-004	0.0000	9.9249
Total	**4.3000e-003**	**2.6400e-003**	**0.0304**	**1.1000e-004**	**0.0135**	**8.0000e-005**	**0.0135**	**3.5800e-003**	**7.0000e-005**	**3.6500e-003**	**0.0000**	**9.9203**	**9.9203**	**1.8000e-004**	**0.0000**	**9.9249**

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	0.3825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5300e-003	0.0353	0.1613	2.6000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	22.8563	22.8563	5.0200e-003	0.0000	22.9818
Total	**0.3860**	**0.0353**	**0.1613**	**2.6000e-004**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**	**0.0000**	**22.8563**	**22.8563**	**5.0200e-003**	**0.0000**	**22.9818**

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-003	2.6400e-003	0.0304	1.1000e-004	0.0135	8.0000e-005	0.0135	3.5800e-003	7.0000e-005	3.6500e-003	0.0000	9.9203	9.9203	1.8000e-004	0.0000	9.9249
Total	**4.3000e-003**	**2.6400e-003**	**0.0304**	**1.1000e-004**	**0.0135**	**8.0000e-005**	**0.0135**	**3.5800e-003**	**7.0000e-005**	**3.6500e-003**	**0.0000**	**9.9203**	**9.9203**	**1.8000e-004**	**0.0000**	**9.9249**

3.6 Building Interior - 2025

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	0.4968					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1509	0.1866	3.4000e-004		6.4000e-003	6.4000e-003		6.0700e-003	6.0700e-003	0.0000	29.6873	29.6873	6.5000e-003	0.0000	29.8497
Total	**0.5139**	**0.1509**	**0.1866**	**3.4000e-004**		**6.4000e-003**	**6.4000e-003**		**6.0700e-003**	**6.0700e-003**	**0.0000**	**29.6873**	**29.6873**	**6.5000e-003**	**0.0000**	**29.8497**

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	5.2800e-003	3.1200e-003	0.0366	1.4000e-004	0.0175	1.0000e-004	0.0176	4.6500e-003	9.0000e-005	4.7400e-003	0.0000	12.3639	12.3639	2.2000e-004	0.0000	12.3693

Total	**5.2800e-003**	**3.1200e-003**	**0.0366**	**1.4000e-004**	**0.0175**	**1.0000e-004**	**0.0176**	**4.6500e-003**	**9.0000e-005**	**4.7400e-003**	**0.0000**	**12.3639**	**12.3639**	**2.2000e-004**	**0.0000**	**12.3693**

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	0.4968					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5800e-003	0.0458	0.2095	3.4000e-004		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	29.6872	29.6872	6.5000e-003	0.0000	29.8497
Total	**0.5014**	**0.0458**	**0.2095**	**3.4000e-004**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**29.6872**	**29.6872**	**6.5000e-003**	**0.0000**	**29.8497**

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	5.2800e-003	3.1200e-003	0.0366	1.4000e-004	0.0175	1.0000e-004	0.0176	4.6500e-003	9.0000e-005	4.7400e-003	0.0000	12.3639	12.3639	2.2000e-004	0.0000	12.3693
Total	**5.2800e-003**	**3.1200e-003**	**0.0366**	**1.4000e-004**	**0.0175**	**1.0000e-004**	**0.0176**	**4.6500e-003**	**9.0000e-005**	**4.7400e-003**	**0.0000**	**12.3639**	**12.3639**	**2.2000e-004**	**0.0000**	**12.3693**

3.7 Paving - 2025

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	0.0245	0.2332	0.3568	5.4000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	46.8816	46.8816	0.0151	0.0000	47.2581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0245**	**0.2332**	**0.3568**	**5.4000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**46.8816**	**46.8816**	**0.0151**	**0.0000**	**47.2581**

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	2.5000e-004	7.7300e-003	2.6300e-003	4.0000e-005	8.5000e-004	1.0000e-005	8.6000e-004	2.3000e-004	1.0000e-005	2.5000e-004	0.0000	3.5189	3.5189	1.5000e-004	0.0000	3.5227
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	7.6000e-004	8.9800e-003	3.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.0300	3.0300	5.0000e-005	0.0000	3.0313
Total	**1.5400e-003**	**8.4900e-003**	**0.0116**	**7.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3700e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**6.5489**	**6.5489**	**2.0000e-004**	**0.0000**	**6.5540**

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	7.4300e-003	0.0668	0.4003	5.4000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	46.8816	46.8816	0.0151	0.0000	47.2581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.4300e-003**	**0.0668**	**0.4003**	**5.4000e-004**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**46.8816**	**46.8816**	**0.0151**	**0.0000**	**47.2581**

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	2.5000e-004	7.7300e-003	2.6300e-003	4.0000e-005	8.5000e-004	1.0000e-005	8.6000e-004	2.3000e-004	1.0000e-005	2.5000e-004	0.0000	3.5189	3.5189	1.5000e-004	0.0000	3.5227
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	7.6000e-004	8.9800e-003	3.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.0300	3.0300	5.0000e-005	0.0000	3.0313
Total	**1.5400e-003**	**8.4900e-003**	**0.0116**	**7.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3700e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**6.5489**	**6.5489**	**2.0000e-004**	**0.0000**	**6.5540**