Appendix C

Air Quality Assessment

San Jose Tribute Hotel
Air Quality Assessment

San Jose, California

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Introduction

The purpose of this report is to address toxic air contaminant (TAC) emissions and the impact to nearby sensitive receptors from operation and construction of the San Jose Tribute Hotel project at 211 S. 1st Street in San Jose, California. The project proposes to construct a new 176,000 square-foot, 24-story high rise hotel addition adjacent to the existing 4-story Four Points by Sheraton Hotel, the former historic Montgomery Hotel, in downtown San José. The proposed hotel tower would contain between 260 and 280 hotel guest rooms and indoor roof-top public amenities, including a swimming pool, spa, fitness center, and events lounge. The project would also include the installation of one 600-kilowatt (kW) emergency back-up diesel generator (approximately 900 horsepower) to provide emergency backup power. This analysis addresses community risk impacts associated with operation and construction emissions. These impacts were predicted at sensitive receptors near the site. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry,

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[3] The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[4]

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. The closest sensitive receptors to the project site are the Casa

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[3] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: June 9, 2015.
[4] Bay Area Air Quality Management District, 2011. *BAAQMD CEQA Air Quality Guidelines*. May.

del Pueblo senior residences adjacent to the western boundary of the project site. Additional residences are located to the east across the street.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in the Air District's updated CEQA Guidelines (updated May 2017). The significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 1.

Table 1. Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Health Risks and Hazards for New Sources			
Excess Cancer Risk	>10 per one million		
Chronic or Acute Hazard Index	>1.0		
Incremental annual average $PM_{2.5}$	>0.3 µg/m^3		
Health Risks and Hazards for Sensitive Receptors (Cumulative from all sources within 1,000 foot zone of influence) and Cumulative Thresholds for New Sources			
Excess Cancer Risk	>100 per one million		
Chronic Hazard Index	>10.0		
Annual Average $PM_{2.5}$	>0.8 µg/m^3		

Project Construction Activity

Fugitive Dust - PM_{10}/$PM_{2.5}$

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. Project construction impacts are considered significant since they can generate dust that could pose health and nuisance impacts if uncontrolled.

Mitigation Measure AQ-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.

<u>Effectiveness of Mitigation Measure AQ-1</u>

The measures listed above are consistent with those recommended in the BAAQMD CEQA Air Quality Guidelines and would reduce localized health and nuisance impacts caused by project construction.

Construction TAC Emissions from Diesel Exhaust

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $PM_{2.5}$.[5] The closest sensitive receptors to the project site are residences adjacent to the western and southern boundaries of the project site (see Figure 1). Emissions and dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction activity is anticipated to include grading and site preparation, building construction, architectural coating, and paving. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2016.3.1 (CalEEMod). Equipment defaults from the model were used for a project of this type and size. The phases were adjusted proportionately to the model default based on an expected 20-month construction schedule. The proposed project land use was input into CalEEMod as 280 rooms entered as "Hotel," on a 0.58-acre site. The CalEEMod modeling included emissions from truck and worker travel, assumed to occur over a distance of one-half mile on or near the site. During grading, 8,000 cubic yards of soil are anticipated for export and were entered.

Construction Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.1616 tons (323 pounds). The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of 0.5 mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.0038 tons (8 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at existing sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[6] The AERMOD

[5] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[6] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when the majority of construction activity would occur. Figure 1 shows the project site and nearby sensitive receptors (residences) locations where health impacts were evaluated.

The modeling used a five-year data set (2006 - 2010) of hourly meteorological data from the San jose Airport that was prepared for use with the AERMOD model by BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities for 2017 through 2018 were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 4.5 meters (14.8 feet) were used to represent the breathing heights of second-story residential sensitive receptors.

The maximum-modeled DPM and $PM_{2.5}$ concentrations occurred at a residential receptor to the east of the project site. The maximum cancer risk occurred at the same receptor location where the maximum $PM_{2.5}$ concentrations occurred, and are shown on Figure 1.

Predicted Cancer Risk and Hazards

Increased cancer risks were calculated using the maximum modeled concentrations for the 2017 through 2018 construction period and BAAQMD-recommended risk assessment methods. The cancer risk calculations were based on applying the BAAQMD-recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. *Attachment 1* includes a description of how the cancer risk and non-cancer impacts are computed. Infant/child and adult exposures were assumed to occur at residences besides the Casa del Pueblo senior apartments.

Results of the assessment for project construction indicate the maximum residential incremental infant/child cancer risk at the maximally exposed individual (MEI) receptor would be 30.5 in one million and the residential adult incremental cancer risk would be 0.5 in one million. Increased adult cancer risk at Casa del Pueblo would be 0.9 in one million. The maximum residential infant cancer risk would exceed the BAAQMD significance threshold for cancer risk and would be considered a *significant impact*.

The maximum-modeled annual $PM_{2.5}$ concentration at a residential receptor, which is based on combined exhaust and fugitive dust emissions, was 0.2 $\mu g/m^3$, occurring at the Casa del Pueblo as shown in Figure 1. This maximum $PM_{2.5}$ concentration would not exceed the BAAQMD significance threshold for annual $PM_{2.5}$ concentration and would be considered a *less-than significant impact*.

The maximum modeled annual DPM concentration (i.e., from construction exhaust) was 0.1538 $\mu g/m^3$. The maximum computed HI based on this DPM concentration is less than 0.1, which is lower than the BAAQMD significance criterion of a HI greater than 1.0.

Attachment 2 includes the emission calculations used for the area source modeling and the health risk calculations.

The project would have a *significant* impact with respect to community risk caused by project construction activities, since cancer risk is above the single-source thresholds of 10.0 per million. *Implementation of Mitigation Measures AQ- 1 and AQ-2 would reduce this impact to a level of less than significant.*

Mitigation Measure AQ-2: **Selection of equipment during construction to minimize emissions. Such equipment selection would include the following:**

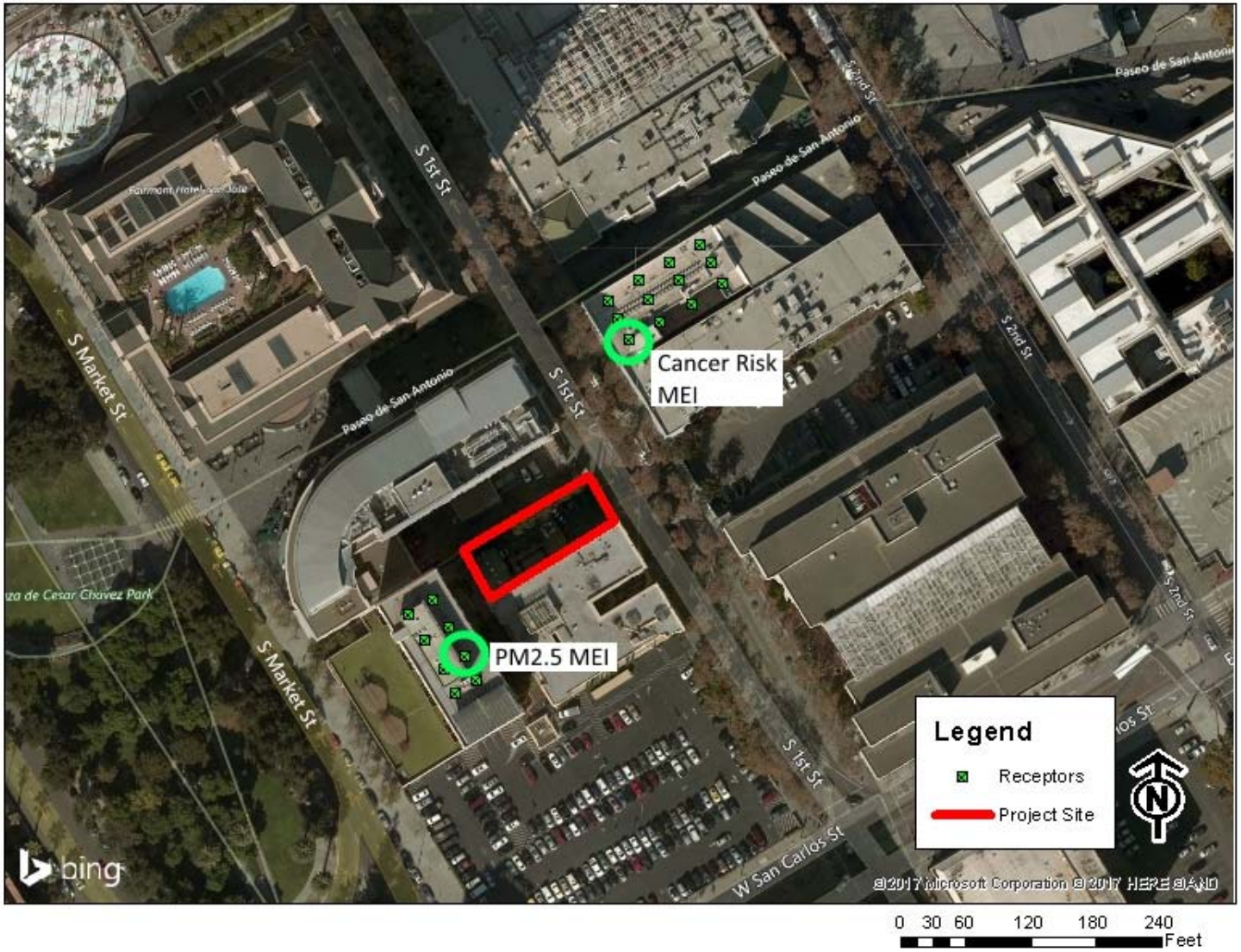
All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days continuously shall meet, at a minimum, U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent. The construction contractor could use other measures to minimize construction period DPM emission to reduce the predicted cancer risk below the thresholds. The use of equipment that includes CARB-certified Level 3 Diesel Particulate Filters[1] or alternatively-fueled equipment (i.e., non-diesel) would meet this requirement. 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.

Effectiveness of Mitigation Measures

Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent and fugitive dust emissions by over 50 percent. *Mitigation Measure AQ-2* would reduce emissions further. With implementation of these recommended measures, DPM emissions would be reduced by over 96 percent. This would reduce excess infant cancer risk to 0.9 in one million. This cancer risk would be below the BAAQMD threshold of greater than 10.0 in one million for cancer risk. Therefore, *after implementation of these recommended mitigation measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities.*

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

Figure 1. Project Construction Site, Locations of Off-Site Sensitive Receptors and Location of Maximum TAC Impact



Project Generator Operational Activity

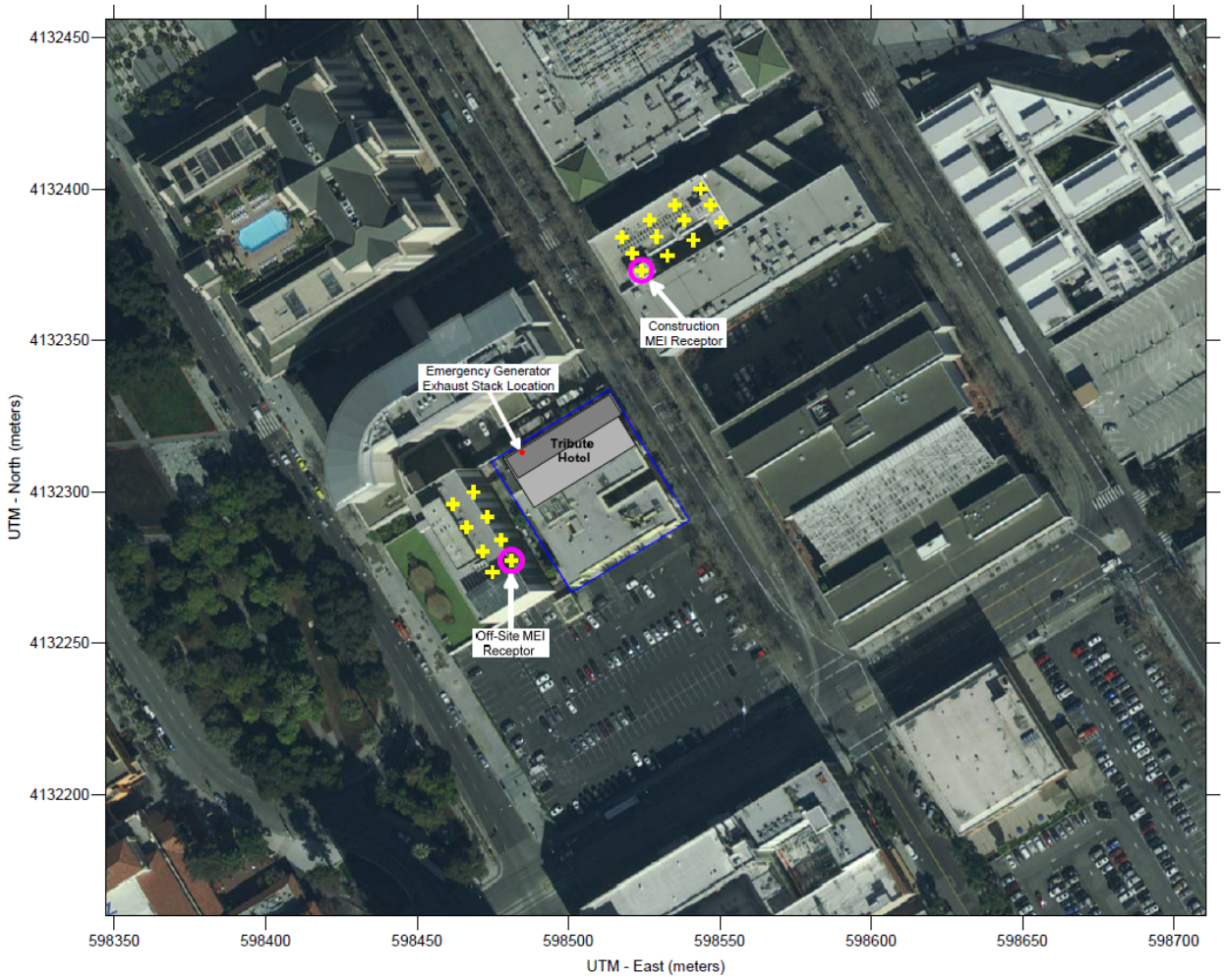
The project would include the installation of one 600-kW emergency back-up diesel generator (approximately 900 horsepower) to provide emergency backup power. The generator would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions. During testing periods, the engine would typically be run for less than one hour under light engine loads. The generator engine would be required to meet U.S. EPA emission standards and consume commercially available California low sulfur diesel fuel. The emissions from the operation of the generator were calculated for a 600 kW using the CalEEMod model and assuming 50 hours per year operation.

To estimate potential cancer risks and $PM_{2.5}$ impacts from operation of the generator, the AERMOD dispersion model was used to calculate the maximum annual DPM concentrations at the same off-site sensitive receptor locations as were used for evaluating construction impacts. The generator will be located in a dedicated generator room with air intake louvers on level 6 of the hotel and the generator would exhaust through ductwork to the building's roof. The modeling was conducted using a five-year data set (2006-2010) of hourly meteorological data from the San Jose Airport prepared for use with the AERMOD model by the BAAQMD. Building downwash effects of the proposed building and surrounding buildings on the generator exhaust plume were included in the modeling. Stack parameters for modeling (stack diameter, exhaust flow rate and exhaust gas temperature) were based data typical for a 600 kW generator.[7] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator testing could occur at any time between the hours of 7:00 am and 7:00 pm, consistent with the City code requirements (Code Section 20.80.2030) and the generator is operated for 50 hours per year.

The maximum modeled DPM and $PM_{2.5}$ concentrations for off-site receptors occurred at a residence in Casa Del Pueblo adjacent to the western boundary of the project site. The maximum off-site annual DPM and $PM_{2.5}$ concentration was 0.00069 $\mu g/m^3$. Based on the maximum DPM concentration, the maximum project residential cancer risk would be 0.4 in one million. The maximum HI at this location, and all other locations, would be less than 0.001. Modeling was also conducted to identify the maximum impact from the proposed generator at the location of the construction MEI. The maximum annual DPM and $PM_{2.5}$ concentration at the location of the construction MEI was 0.00029 $\mu g/m^3$. Based on the maximum construction MEI DPM concentration, the maximum cancer risk at the construction MEI receptor would be 0.2 in one million. The maximum HI at this location would be less than 0.001. The location where the maximum on-site and off-site cancer risk and $PM_{2.5}$ impacts occurred are shown on Figure 2. The emissions and health risk calculations are provided in *Attachment 3*.

[7] The specific manufacturer and model of the emergency generator that will be used for the project have not been specified at this stage of project development. Thus, generator engine and stack parameters for 600 kW generators available from Caterpillar, Cummins, and Generac were used to develop representative stack parameters.

Figure 2. Project Site, Potential Locations for Emergency Generator, and Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts



Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[8] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[9] This HRA used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. While the OEHHA guidelines use substantially more conservative assumptions than the current Bay Area Air Quality Management District (BAAQMD) guidelines, BAAQMD has not formally adopted recommended procedures for applying the newest OEHHA guidelines. BAAQMD is in the process of developing new guidance and has developed proposed HRA Guidelines as part of the proposed amendments to Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[10] Exposure parameters from the OEHHA guidelines and newly proposed BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th

[8] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[9] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[10] BAAQMD, 2016. *Workshop Report. Proposed Amendments to Air District Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Appendix C. Proposed Air District HRA Guidelines*. January 2016.

percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. BAAQMD recommends using these FAH factors for residential exposures.

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

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 = $C_{air} \times DBR \times A \times (EF/365) \times 10^{-6}$

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

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child		Adult
	Age Range →	3rd Trimester	0<2	2 < 9	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	631	572	261
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14
Exposure Frequency (days/year)		350	350	350	350	350
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Modeling Output and Risk Calculations

Four Points Sheraton, San Jose - Construction TAC

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	280.00	Room	0.58	176,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Construction Phase - default phase durations proportionately adjusted for 20 month construction schedule

Trips and VMT - 0.5mi trip lengths for community risk

Grading - 8,000cy export

Construction Off-road Equipment Mitigation - Tier 4 engines, BAAQMD BMPs

Table Name	Column Name	Default Value	New Value
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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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstructionPhase	NumDays	5.00	18.00
tblConstructionPhase	NumDays	100.00	358.00
tblConstructionPhase	NumDays	10.00	36.00
tblConstructionPhase	NumDays	2.00	7.00
tblConstructionPhase	NumDays	5.00	18.00
tblConstructionPhase	NumDays	1.00	4.00
tblGrading	MaterialExported	0.00	8,000.00
tblLandUse	BuildingSpaceSquareFeet	406,560.00	176,000.00
tblLandUse	LandUseSquareFeet	406,560.00	176,000.00
tblLandUse	LotAcreage	9.33	0.58
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50

tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.1371	1.3976	0.8835	1.3600e-003	7.5400e-003	0.0808	0.0883	2.5700e-003	0.0748	0.0774	0.0000	125.6021	125.6021	0.0322	0.0000	126.4068
2018	1.0592	1.4661	1.0181	1.5800e-003	4.4800e-003	0.0808	0.0853	1.2400e-003	0.0745	0.0758	0.0000	144.5797	144.5797	0.0397	0.0000	145.5712
Maximum	**1.0592**	**1.4661**	**1.0181**	**1.5800e-003**	**7.5400e-003**	**0.0808**	**0.0883**	**2.5700e-003**	**0.0748**	**0.0774**	**0.0000**	**144.5797**	**144.5797**	**0.0397**	**0.0000**	**145.5712**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0376	0.6421	0.8790	1.3600e-003	4.3200e-003	2.2900e-003	6.6200e-003	1.3100e-003	2.2700e-003	3.5800e-003	0.0000	125.6019	125.6019	0.0322	0.0000	126.4067
2018	0.9613	0.7269	1.0371	1.5800e-003	4.4800e-003	2.6000e-003	7.0800e-003	1.2400e-003	2.5800e-003	3.8200e-003	0.0000	144.5795	144.5795	0.0397	0.0000	145.5710
Maximum	**0.9613**	**0.7269**	**1.0371**	**1.5800e-003**	**4.4800e-003**	**2.6000e-003**	**7.0800e-003**	**1.3100e-003**	**2.5800e-003**	**3.8200e-003**	**0.0000**	**144.5795**	**144.5795**	**0.0397**	**0.0000**	**145.5710**

	ROG	NOx	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	**16.50**	**52.20**	**-0.77**	**0.00**	**26.79**	**96.97**	**92.11**	**33.07**	**96.75**	**95.17**	**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	**6-1-2017**	**8-31-2017**	0.5602	0.2590
2	**9-1-2017**	**11-30-2017**	0.5290	0.2260
3	**12-1-2017**	**2-28-2018**	0.4804	0.2212
4	**3-1-2018**	**5-31-2018**	0.4696	0.2265
5	**6-1-2018**	**8-31-2018**	0.4702	0.2271
6	**9-1-2018**	**9-30-2018**	0.1533	0.0740
		Highest	0.5602	0.2590

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2017	5/22/2017	5	36	
2	Site Preparation	Site Preparation	5/23/2017	5/26/2017	5	4	
3	Grading	Grading	5/27/2017	6/6/2017	5	7	

4	Building Construction	Building Construction	6/7/2017	10/19/2018	5	358	
5	Paving	Paving	10/20/2018	11/14/2018	5	18	
6	Architectural Coating	Architectural Coating	11/15/2018	12/10/2018	5	18	

Acres of Grading (Site Preparation Phase): 2

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 264,000; Non-Residential Outdoor: 88,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	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
Architectural Coating	1	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Building Construction	5	74.00	29.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Demolition	4	10.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0218	0.1890	0.1425	2.2000e-004		0.0132	0.0132		0.0126	0.0126	0.0000	19.2573	19.2573	3.7900e-003	0.0000	19.3520
Total	**0.0218**	**0.1890**	**0.1425**	**2.2000e-004**		**0.0132**	**0.0132**		**0.0126**	**0.0126**	**0.0000**	**19.2573**	**19.2573**	**3.7900e-003**	**0.0000**	**19.3520**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.1000e-004	1.4700e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0996	0.0996	1.0000e-005	0.0000	0.0998
Total	**2.5000e-004**	**1.1000e-004**	**1.4700e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0996**	**0.0996**	**1.0000e-005**	**0.0000**	**0.0998**

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	4.2600e-003	0.0818	0.1429	2.2000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	19.2573	19.2573	3.7900e-003	0.0000	19.3519
Total	**4.2600e-003**	**0.0818**	**0.1429**	**2.2000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**19.2573**	**19.2573**	**3.7900e-003**	**0.0000**	**19.3519**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.1000e-004	1.4700e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0996	0.0996	1.0000e-005	0.0000	0.0998
Total	**2.5000e-004**	**1.1000e-004**	**1.4700e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0996**	**0.0996**	**1.0000e-005**	**0.0000**	**0.0998**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0600e-003	0.0000	1.0600e-003	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-003	0.0210	8.7100e-003	2.0000e-005		9.5000e-004	9.5000e-004		8.7000e-004	8.7000e-004	0.0000	1.8135	1.8135	5.6000e-004	0.0000	1.8274
Total	**1.7000e-003**	**0.0210**	**8.7100e-003**	**2.0000e-005**	**1.0600e-003**	**9.5000e-004**	**2.0100e-003**	**1.1000e-004**	**8.7000e-004**	**9.8000e-004**	**0.0000**	**1.8135**	**1.8135**	**5.6000e-004**	**0.0000**	**1.8274**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.5300e-003	5.5300e-003	0.0000	0.0000	5.5400e-003
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.5300e-003**	**5.5300e-003**	**0.0000**	**0.0000**	**5.5400e-003**

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					2.4000e-004	0.0000	2.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	6.2000e-003	0.0117	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.8135	1.8135	5.6000e-004	0.0000	1.8274
Total	**3.6000e-004**	**6.2000e-003**	**0.0117**	**2.0000e-005**	**2.4000e-004**	**3.0000e-005**	**2.7000e-004**	**3.0000e-005**	**3.0000e-005**	**6.0000e-005**	**0.0000**	**1.8135**	**1.8135**	**5.6000e-004**	**0.0000**	**1.8274**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.5300e-003	5.5300e-003	0.0000	0.0000	5.5400e-003
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.5300e-003**	**5.5300e-003**	**0.0000**	**0.0000**	**5.5400e-003**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0900e-003	0.0000	3.0900e-003	1.5200e-003	0.0000	1.5200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2300e-003	0.0367	0.0277	4.0000e-005		2.5600e-003	2.5600e-003		2.4400e-003	2.4400e-003	0.0000	3.7445	3.7445	7.4000e-004	0.0000	3.7629
Total	**4.2300e-003**	**0.0367**	**0.0277**	**4.0000e-005**	**3.0900e-003**	**2.5600e-003**	**5.6500e-003**	**1.5200e-003**	**2.4400e-003**	**3.9600e-003**	**0.0000**	**3.7445**	**3.7445**	**7.4000e-004**	**0.0000**	**3.7629**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3800e-003	0.0536	0.0102	6.0000e-005	2.2000e-004	9.0000e-005	3.1000e-004	6.0000e-005	8.0000e-005	1.4000e-004	0.0000	5.5110	5.5110	8.3000e-004	0.0000	5.5318
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	5.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0194	0.0194	0.0000	0.0000	0.0194
Total	**1.4300e-003**	**0.0536**	**0.0105**	**6.0000e-005**	**2.3000e-004**	**9.0000e-005**	**3.2000e-004**	**6.0000e-005**	**8.0000e-005**	**1.4000e-004**	**0.0000**	**5.5303**	**5.5303**	**8.3000e-004**	**0.0000**	**5.5512**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9000e-004	0.0000	6.9000e-004	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	8.3000e-004	0.0159	0.0278	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.7445	3.7445	7.4000e-004	0.0000	3.7629
Total	**8.3000e-004**	**0.0159**	**0.0278**	**4.0000e-005**	**6.9000e-004**	**6.0000e-005**	**7.5000e-004**	**3.4000e-004**	**6.0000e-005**	**4.0000e-004**	**0.0000**	**3.7445**	**3.7445**	**7.4000e-004**	**0.0000**	**3.7629**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3800e-003	0.0536	0.0102	6.0000e-005	2.2000e-004	9.0000e-005	3.1000e-004	6.0000e-005	8.0000e-005	1.4000e-004	0.0000	5.5110	5.5110	8.3000e-004	0.0000	5.5318
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	5.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0194	0.0194	0.0000	0.0000	0.0194
Total	**1.4300e-003**	**0.0536**	**0.0105**	**6.0000e-005**	**2.3000e-004**	**9.0000e-005**	**3.2000e-004**	**6.0000e-005**	**8.0000e-005**	**1.4000e-004**	**0.0000**	**5.5303**	**5.5303**	**8.3000e-004**	**0.0000**	**5.5512**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0948	0.9442	0.5972	8.4000e-004		0.0636	0.0636		0.0585	0.0585	0.0000	78.2699	78.2699	0.0240	0.0000	78.8695
Total	**0.0948**	**0.9442**	**0.5972**	**8.4000e-004**		**0.0636**	**0.0636**		**0.0585**	**0.0585**	**0.0000**	**78.2699**	**78.2699**	**0.0240**	**0.0000**	**78.8695**

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	5.2700e-003	0.1495	0.0507	1.4000e-004	1.0200e-003	3.7000e-004	1.3900e-003	3.0000e-004	3.5000e-004	6.5000e-004	0.0000	13.8510	13.8510	2.0500e-003	0.0000	13.9022
Worker	7.5800e-003	3.4500e-003	0.0448	3.0000e-005	2.0600e-003	5.0000e-005	2.1100e-003	5.6000e-004	4.0000e-005	6.0000e-004	0.0000	3.0304	3.0304	2.4000e-004	0.0000	3.0364
Total	**0.0129**	**0.1530**	**0.0954**	**1.7000e-004**	**3.0800e-003**	**4.2000e-004**	**3.5000e-003**	**8.6000e-004**	**3.9000e-004**	**1.2500e-003**	**0.0000**	**16.8814**	**16.8814**	**2.2900e-003**	**0.0000**	**16.9386**

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	0.0176	0.3315	0.5892	8.4000e-004		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	78.2698	78.2698	0.0240	0.0000	78.8694
Total	**0.0176**	**0.3315**	**0.5892**	**8.4000e-004**		**1.3800e-003**	**1.3800e-003**		**1.3800e-003**	**1.3800e-003**	**0.0000**	**78.2698**	**78.2698**	**0.0240**	**0.0000**	**78.8694**

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	5.2700e-003	0.1495	0.0507	1.4000e-004	1.0200e-003	3.7000e-004	1.3900e-003	3.0000e-004	3.5000e-004	6.5000e-004	0.0000	13.8510	13.8510	2.0500e-003	0.0000	13.9022
Worker	7.5800e-003	3.4500e-003	0.0448	3.0000e-005	2.0600e-003	5.0000e-005	2.1100e-003	5.6000e-004	4.0000e-005	6.0000e-004	0.0000	3.0304	3.0304	2.4000e-004	0.0000	3.0364
Total	**0.0129**	**0.1530**	**0.0954**	**1.7000e-004**	**3.0800e-003**	**4.2000e-004**	**3.5000e-003**	**8.6000e-004**	**3.9000e-004**	**1.2500e-003**	**0.0000**	**16.8814**	**16.8814**	**2.2900e-003**	**0.0000**	**16.9386**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1139	1.1583	0.8139	1.2000e-003		0.0744	0.0744		0.0685	0.0685	0.0000	109.2122	109.2122	0.0340	0.0000	110.0622
Total	**0.1139**	**1.1583**	**0.8139**	**1.2000e-003**		**0.0744**	**0.0744**		**0.0685**	**0.0685**	**0.0000**	**109.2122**	**109.2122**	**0.0340**	**0.0000**	**110.0622**

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	6.6000e-003	0.2067	0.0646	2.1000e-004	1.4500e-003	4.0000e-004	1.8500e-003	4.3000e-004	3.9000e-004	8.1000e-004	0.0000	19.9858	19.9858	2.6700e-003	0.0000	20.0526
Worker	9.5800e-003	4.2400e-003	0.0558	5.0000e-005	2.9300e-003	7.0000e-005	2.9900e-003	7.9000e-004	6.0000e-005	8.5000e-004	0.0000	4.1864	4.1864	2.9000e-004	0.0000	4.1938
Total	**0.0162**	**0.2109**	**0.1203**	**2.6000e-004**	**4.3800e-003**	**4.7000e-004**	**4.8400e-003**	**1.2200e-003**	**4.5000e-004**	**1.6600e-003**	**0.0000**	**24.1722**	**24.1722**	**2.9600e-003**	**0.0000**	**24.2463**

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	0.0250	0.4703	0.8361	1.2000e-003		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	109.2121	109.2121	0.0340	0.0000	110.0621
Total	**0.0250**	**0.4703**	**0.8361**	**1.2000e-003**		**1.9600e-003**	**1.9600e-003**		**1.9600e-003**	**1.9600e-003**	**0.0000**	**109.2121**	**109.2121**	**0.0340**	**0.0000**	**110.0621**

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	6.6000e-003	0.2067	0.0646	2.1000e-004	1.4500e-003	4.0000e-004	1.8500e-003	4.3000e-004	3.9000e-004	8.1000e-004	0.0000	19.9858	19.9858	2.6700e-003	0.0000	20.0526
Worker	9.5800e-003	4.2400e-003	0.0558	5.0000e-005	2.9300e-003	7.0000e-005	2.9900e-003	7.9000e-004	6.0000e-005	8.5000e-004	0.0000	4.1864	4.1864	2.9000e-004	0.0000	4.1938
Total	**0.0162**	**0.2109**	**0.1203**	**2.6000e-004**	**4.3800e-003**	**4.7000e-004**	**4.8400e-003**	**1.2200e-003**	**4.5000e-004**	**1.6600e-003**	**0.0000**	**24.1722**	**24.1722**	**2.9600e-003**	**0.0000**	**24.2463**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2800e-003	0.0787	0.0650	1.0000e-004		4.6000e-003	4.6000e-003		4.2600e-003	4.2600e-003	0.0000	8.7373	8.7373	2.4600e-003	0.0000	8.7989
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.2800e-003**	**0.0787**	**0.0650**	**1.0000e-004**		**4.6000e-003**	**4.6000e-003**		**4.2600e-003**	**4.2600e-003**	**0.0000**	**8.7373**	**8.7373**	**2.4600e-003**	**0.0000**	**8.7989**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.1600e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0873	0.0873	1.0000e-005	0.0000	0.0874
Total	**2.0000e-004**	**9.0000e-005**	**1.1600e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0873**	**0.0873**	**1.0000e-005**	**0.0000**	**0.0874**

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	1.4700e-003	0.0360	0.0621	1.0000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.7373	8.7373	2.4600e-003	0.0000	8.7989

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4700e-003**	**0.0360**	**0.0621**	**1.0000e-004**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**8.7373**	**8.7373**	**2.4600e-003**	**0.0000**	**8.7989**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.1600e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0873	0.0873	1.0000e-005	0.0000	0.0874
Total	**2.0000e-004**	**9.0000e-005**	**1.1600e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0873**	**0.0873**	**1.0000e-005**	**0.0000**	**0.0874**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9177					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	**0.9204**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3034**

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	1.7000e-004	7.0000e-005	9.7000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0727	0.0727	1.0000e-005	0.0000	0.0729
Total	**1.7000e-004**	**7.0000e-005**	**9.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0727**	**0.0727**	**1.0000e-005**	**0.0000**	**0.0729**

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	0.9177					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	9.5400e-003	0.0165	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	**0.9182**	**9.5400e-003**	**0.0165**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3034**

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	1.7000e-004	7.0000e-005	9.7000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0727	0.0727	1.0000e-005	0.0000	0.0729
Total	**1.7000e-004**	**7.0000e-005**	**9.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0727**	**0.0727**	**1.0000e-005**	**0.0000**	**0.0729**

Four Points Sheraton, San Jose - Construction - Santa Clara County, Annual

Four Points Sheraton, San Jose - Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	280.00	Room	0.58	176,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - *

Construction Phase - default phase durations proportionately adjusted for 20 month construction schedule

Grading - 8,000cy export

Stationary Sources - Emergency Generators and Fire Pumps - diesel generator 600kw = 740 hp, 50hrs/yr

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	18.00
tblConstructionPhase	NumDays	100.00	358.00

tblConstructionPhase	NumDays	10.00	36.00
tblConstructionPhase	NumDays	2.00	7.00
tblConstructionPhase	NumDays	5.00	18.00
tblConstructionPhase	NumDays	1.00	4.00
tblEnergyUse	LightingElect	2.35	2.41
tblEnergyUse	T24E	2.05	2.15
tblEnergyUse	T24NG	39.56	39.76
tblGrading	MaterialExported	0.00	8,000.00
tblLandUse	LandUseSquareFeet	406,560.00	176,000.00
tblLandUse	LotAcreage	9.33	0.58
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	740.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7794	2.0000e-005	2.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0000e-003	5.0000e-003	1.0000e-005	0.0000	5.3400e-003
Energy	0.0422	0.3840	0.3226	2.3000e-003		0.0292	0.0292		0.0292	0.0292	0.0000	816.3785	816.3785	0.0260	0.0114	820.4235
Mobile	0.6179	2.4249	6.6819	0.0187	1.5543	0.0215	1.5758	0.4161	0.0203	0.4364	0.0000	1,704.6048	1,704.6048	0.0684	0.0000	1,706.3146
Stationary	0.0304	0.0849	0.0774	1.5000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	14.0895	14.0895	1.9800e-003	0.0000	14.1389

Waste						0.0000	0.0000		0.0000	0.0000	31.1185	0.0000	31.1185	1.8391	0.0000	77.0948
Water						0.0000	0.0000		0.0000	0.0000	2.2534	11.9841	14.2374	0.2320	5.5800e-003	21.6989
Total	**1.4699**	**2.8938**	**7.0844**	**0.0211**	**1.5543**	**0.0552**	**1.6095**	**0.4161**	**0.0539**	**0.4700**	**33.3719**	**2,547.0619**	**2,580.4338**	**2.1674**	**0.0170**	**2,639.6761**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7794	2.0000e-005	2.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0000e-003	5.0000e-003	1.0000e-005	0.0000	5.3400e-003
Energy	0.0422	0.3840	0.3226	2.3000e-003		0.0292	0.0292		0.0292	0.0292	0.0000	816.3785	816.3785	0.0260	0.0114	820.4235
Mobile	0.6179	2.4249	6.6819	0.0187	1.5543	0.0215	1.5758	0.4161	0.0203	0.4364	0.0000	1,704.6048	1,704.6048	0.0684	0.0000	1,706.3146
Stationary	0.0304	0.0849	0.0774	1.5000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	14.0895	14.0895	1.9800e-003	0.0000	14.1389
Waste						0.0000	0.0000		0.0000	0.0000	31.1185	0.0000	31.1185	1.8391	0.0000	77.0948
Water						0.0000	0.0000		0.0000	0.0000	2.2534	11.9841	14.2374	0.2320	5.5800e-003	21.6989
Total	**1.4699**	**2.8938**	**7.0844**	**0.0211**	**1.5543**	**0.0552**	**1.6095**	**0.4161**	**0.0539**	**0.4700**	**33.3719**	**2,547.0619**	**2,580.4338**	**2.1674**	**0.0170**	**2,639.6761**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6179	2.4249	6.6819	0.0187	1.5543	0.0215	1.5758	0.4161	0.0203	0.4364	0.0000	1,704.6048	1,704.6048	0.0684	0.0000	1,706.3146
Unmitigated	0.6179	2.4249	6.6819	0.0187	1.5543	0.0215	1.5758	0.4161	0.0203	0.4364	0.0000	1,704.6048	1,704.6048	0.0684	0.0000	1,706.3146

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hotel	2,287.60	2,293.20	1666.00	4,179,088	4,179,088
Total	2,287.60	2,293.20	1,666.00	4,179,088	4,179,088

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
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Hotel	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	398.3393	398.3393	0.0180	3.7300e-003	399.9001
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	398.3393	398.3393	0.0180	3.7300e-003	399.9001
NaturalGas Mitigated	0.0422	0.3840	0.3226	2.3000e-003		0.0292	0.0292		0.0292	0.0292	0.0000	418.0393	418.0393	8.0100e-003	7.6600e-003	420.5235
NaturalGas Unmitigated	0.0422	0.3840	0.3226	2.3000e-003		0.0292	0.0292		0.0292	0.0292	0.0000	418.0393	418.0393	8.0100e-003	7.6600e-003	420.5235

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Hotel	7.83376e+006	0.0422	0.3840	0.3226	2.3000e-003		0.0292	0.0292		0.0292	0.0292	0.0000	418.0393	418.0393	8.0100e-003	7.6600e-003	420.5235
Total		**0.0422**	**0.3840**	**0.3226**	**2.3000e-003**		**0.0292**	**0.0292**		**0.0292**	**0.0292**	**0.0000**	**418.0393**	**418.0393**	**8.0100e-003**	**7.6600e-003**	**420.5235**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	tons/yr										MT/yr					
Hotel	7.83376e+006	0.0422	0.3840	0.3226	2.3000e-003		0.0292	0.0292		0.0292	0.0292	0.0000	418.0393	418.0393	8.0100e-003	7.6600e-003	420.5235
Total		**0.0422**	**0.3840**	**0.3226**	**2.3000e-003**		**0.0292**	**0.0292**		**0.0292**	**0.0292**	**0.0000**	**418.0393**	**418.0393**	**8.0100e-003**	**7.6600e-003**	**420.5235**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	1.36928e+006	398.3393	0.0180	3.7300e-003	399.9001
Total		**398.3393**	**0.0180**	**3.7300e-003**	**399.9001**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	1.36928e+006	398.3393	0.0180	3.7300e-003	399.9001
Total		**398.3393**	**0.0180**	**3.7300e-003**	**399.9001**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7794	2.0000e-005	2.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0000e-003	5.0000e-003	1.0000e-005	0.0000	5.3400e-003
Unmitigated	0.7794	2.0000e-005	2.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0000e-003	5.0000e-003	1.0000e-005	0.0000	5.3400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6874					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0000e-003	5.0000e-003	1.0000e-005	0.0000	5.3400e-003
Total	**0.7794**	**2.0000e-005**	**2.6000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.0000e-003**	**5.0000e-003**	**1.0000e-005**	**0.0000**	**5.3400e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6874					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0000e-003	5.0000e-003	1.0000e-005	0.0000	5.3400e-003
Total	**0.7794**	**2.0000e-005**	**2.6000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.0000e-003**	**5.0000e-003**	**1.0000e-005**	**0.0000**	**5.3400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.2374	0.2320	5.5800e-003	21.6989
Unmitigated	14.2374	0.2320	5.5800e-003	21.6989

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	7.1027 / 0.789188	14.2374	0.2320	5.5800e-003	21.6989
Total		**14.2374**	**0.2320**	**5.5800e-003**	**21.6989**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	7.1027 / 0.789188	14.2374	0.2320	5.5800e-003	21.6989
Total		**14.2374**	**0.2320**	**5.5800e-003**	**21.6989**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	31.1185	1.8391	0.0000	77.0948
Unmitigated	31.1185	1.8391	0.0000	77.0948

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	153.3	31.1185	1.8391	0.0000	77.0948
Total		**31.1185**	**1.8391**	**0.0000**	**77.0948**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	153.3	31.1185	1.8391	0.0000	77.0948
Total		**31.1185**	**1.8391**	**0.0000**	**77.0948**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	740	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	0.0304	0.0849	0.0774	1.5000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	14.0895	14.0895	1.9800e-003	0.0000	14.1389
Total	**0.0304**	**0.0849**	**0.0774**	**1.5000e-004**		**4.4700e-003**	**4.4700e-003**		**4.4700e-003**	**4.4700e-003**	**0.0000**	**14.0895**	**14.0895**	**1.9800e-003**	**0.0000**	**14.1389**

11.0 Vegetation

Health Risk Calculations

Four Points - San Jose, CA

DPM Emissions and Modeling Emission Rates

Emissions Model Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2017	Construction	0.0808	1_DPM	161.6	0.04919	6.20E-03	614	1.01E-05
2018	Construction	0.0808	1_DPM	161.6	0.04919	6.20E-03	614	1.01E-05
Total		***0.1616***		***323.2***	***0.0984***	***0.0124***		
		Operation Hours						
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

Four Points - San Jose, CA

PM2.5 Fugitive Dust Emissions for Modeling

Construction Year	Activity	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 $g/s/m^2$
2017	Construction	1_PM25	0.0026	5.1	0.00156	1.97E-04	614	3.21E-07
2018	Construction	1_PM25	0.0012	2.5	0.00075	9.51E-05	614	1.55E-07
Total			***0.0038***	***7.6***	***0.0023***	***0.0003***		
		Operation Hours						
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

Four Points - San Jose, CA - Health Impact Summary

Maximum Impacts at Residential 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 ($\mu g/m^3$)
2017	0.0929	0.0036	**15.3**	**0.3**	**0.019**	**0.10**
2018	0.0929	0.0018	**15.3**	**0.3**	**0.019**	**0.09**
Total	-	-	**30.5**	**0.5**		
Maximum Annual	0.0929	0.0036			**0.019**	**0.10**

Four Points - San Jose, CA - Health Impact Summary

Maximum Impacts at Casa Pueblo 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 ($\mu g/m^3$)
2017	0.1538	0.0056	**NA**	**0.4**	**0.031**	**0.16**
2018	0.1538	0.0027	**NA**	**0.4**	**0.031**	**0.16**
Total	-	-	**NA**	**0.9**		
Maximum Annual	0.1538	0.0056			**0.031**	**0.16**

Four Points - San Jose, CA - On-Site Equipment & Truck Operation Impacts
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Residential MEI Location

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			Infant/Child	Adult - Exposure Information			Adult		
	Exposure				Age	Cancer	Modeled		Age	Cancer		
Exposure	Duration		DPM Conc (ug/m3)		Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*		0.0000	10	0.00		0.0000	-	-		
1	1	0 - 1	2017	0.0929	10	15.26	2017	0.0929	1	0.27	0.0036	0.097
2	1	1 - 2	2018	0.0929	10	15.26	2018	0.0929	1	0.27	0.0018	0.095
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
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						**30.52**				**0.53**		

* Third trimester of pregnancy

Four Points - San Jose, CA - On-Site Equipment & Truck Operation Impacts
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Casa Pueblo MEI Location

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			Infant/Child	Adult - Exposure Information			Adult		
	Exposure				Age	Cancer	Modeled		Age	Cancer		
Exposure	Duration		DPM Conc (ug/m3)		Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*		0.0000	10	0.00		0.0000	-	-		
1	1	0 - 1		0.0000	10	0.00		0.0000	1	0.00		
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00		
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
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	2017	0.1538	1	0.44	2017	0.1538	1	0.44	0.0056	0.159
18	1	17-18	2018	0.1538	1	0.44	2018	0.1538	1	0.44	0.0027	0.157
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						**0.88**				**0.88**		

* Third trimester of pregnancy

Attachment 3: Emergency Generator Emissions and Health Risk Calculations

Tribute Hotel / Four Points Sheraton							
Standby Emergency Generator Impacts							
Rating:	600	kW					
	740	HP					
Operating Hours per Unit:	0	hours/day					
	50	hours/year					
Load	0.73	from CARB OFFROAD					
	Standby Emergency Generator Emissions **(PER UNIT)**						
Units	Criteria Pollutants						
	ROG	**NOX**	**CO**	**SOX**	**PM10**	**PM2.5**	**CO2e**
tons/yr (from CalEEMod)					**0.0045**	**0.0045**	
metric tons/yr	—	—	—	—	—	—	14
g/HP-hr	*0.00*	*0.00*	*0.00*	*0.00*	*0.110*	*0.110*	
lbs/hr	0.00	0.00	0.00	0.00	0.179	0.179	
lbs/yr	0.00	0.00	0.00	0.00	8.940	8.940	
Average annual lbs/day	0.00	0.00	0.00	0.00	0.024	0.024	

-- Emission factor from U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors , Fifth Edition, Section 3.4, Table 3.4-1. PM10 and PM2.5 assumed to meet CARB ATCM standards diesel IC engines > 50HP

Tribute Hotel, San Jose, CA - AERMOD Modeling Parameters
Project Emergency Generator
Construction MEI Receptor - 4.5 meter receptor height

DPM Emission Rates		
	DPM Emissions	
Source Type	**Max Daily (lb/day)**	**Annual* (lb/yr)**
Emergency Generator	0.0245	8.94

* emissions calculate with CalEEMod for 600 kW generator

Modeling Information		
Model:	AERMOD	
Source	Diesel Engine	
Source Type	Point	
Receptor Spacing	receptors at off-site residences	
Meteorological Data	2006-2010 BAAQMD San Jose Airport data	
Point Source Stack Parameters		
Generator engine size (hp)	900	
Stack Height (ft)	236 feet (above roof level of hotel building)	
Stack Diameter** (ft)	0.5	
Exhaust Gass Flowrate** (ACFM)	4,230	
Stack Exit Velocity (ft/sec)	359	
Exhaust Temperature** (F)	900	
Annual Emission Rate (lb/year)	8.94	maximum emissions from BAAQMD data
Hourly Emission Rate (lb/hr)	2.04E-03	operation allowed from 7am - 7pm

** Generator engine parameters for generator based on typical 600 kW generator engines

Tribute Hotel, San Jose, CA - Cancer Risks from Project Operation
Project Emergency Generator
Off-Site Receptors - 1.5 meter receptor heights

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - <2**	**2 - <16**	**16 - 30**
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	0.85	0.72	0.72	0.73

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

MEI Cancer Risk From: Project Emergency Generator
1st Floor Receptor

Exposure Duration (years)	Age	Age Sensitivity Factor	DPM Annual Conc (ug/m3)	DPM Cancer Risk (per million)
0.25	-0.25 - 0*	10	0.00069	0.01
2	1 - 2	10	0.00069	0.16
14	3 - 16	3	0.00069	0.18
14	17 - 30	1	0.00069	0.03
Total Increased Cancer Risk				**0.4**

* Third trimester of pregnancy

Maximum Cancer Risk by Receptor Height
Project Emergency Generator

Receptor Height (m)	DPM Annual Conc (ug/m3)	Maximum DPM Cancer Risk (per million)
1.5	6.94E-04	0.381
4.5	6.88E-04	0.378
7.6	6.76E-04	0.371

Tribute Hotel, San Jose, CA - Cancer Risks from Project Operation
Project Emergency Generator
Construction MEI Receptor - 4.5 meter receptor height

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	0.85	0.72	0.72	0.73

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

MEI Cancer Risk From: Project Emergency Generator
Construction MEI Receptor

Exposure Duration (years)	Age	Age Sensitivity Factor	DPM Annual Conc (ug/m3)	DPM Cancer Risk (per million)
0.25	-0.25 - 0*	10	0.00029	0.00
2	1 - 2	10	0.00029	0.07
14	3 - 16	3	0.00029	0.08
14	17 - 30	1	0.00029	0.01
Total Increased Cancer Risk				**0.2**

* Third trimester of pregnancy