Appendix A:
Air Quality Report

TOPGOLF ENTERTAINMENT COMPLEX AND HOTEL DRAFT AIR QUALITY ASSESSMENT

San Jose, California

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Introduction

The purpose of this report is to address air quality and community risk impacts associated with the Topgolf project in San Jose. The project proposes to redevelop the site with a Topgolf entertainment complex, 200-room hotel, and 117,000 square feet (sf) of retail space. All existing improvements on the site would be removed to accommodate the proposed development. The proposed Topgolf entertainment complex would be located on the southern portion of the site and would include a three-story, 71,225 square-foot structure containing roughly 125 hitting bays. A 457-space paved parking lot would be located adjacent to the facility.

The hotel and retail components of the project would be located on the northern and western portions of the site. The 200-room hotel would be four stories in height. The 117,000 sf of retail space would be comprised of 10 one- to two-story structures ranging from 3,000 sf to 38,000 sf. The retail and hotel structures would be situated on top of podiums, with ground-level parking garages providing 709 spaces. An additional 178 parking spaces would be provided in surface lots located throughout the site. A 5.8-acre area in the southeast corner of the project site would remain undeveloped.

Air pollutant emissions associated with construction and operation of the project were modeled. In addition, the potential construction health risk impact to nearby sensitive receptors was evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Setting

The project is located in northern 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 (NOx). 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 (TAC) 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, 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.

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.[1] 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.[2] *Attachment 1* includes detailed community risk modeling methodology.

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

[1] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.
[2] Bay Area Air Quality Management District. 2011. BAAQMD CEQA Air Quality Guidelines. May.

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, elementary schools, and parks. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptor to the project site is an existing residence next to the northwest corner of the site. There are other residences at further distances in to the north, south, and west from the project site. Additionally, George Mayne Elementary School is located north of the project site, across N. 1st Street from the site.

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 2011). The significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 1.

The BAAQMD's adoption of significance thresholds contained in the 2011 CEQA Air Quality Guidelines was called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The order requires the BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds (Cal. Court of Appeal, First Appellate District, Case Nos. A135335 & A136212). CBIA sought review by the California Supreme Court on three issues, including the appellate court's decision to uphold the BAAQMD's adoption of the thresholds, and the Court granted review on just one: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users of a proposed project? In December 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project – known as "CEQA-in-reverse" – is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). The Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's ruling. Accordingly, the case is currently pending back in the Court of Appeal. Because the Supreme Court's holding concerns the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment), and not the science behind the thresholds, the significance thresholds contained in the 2011 CEQA Air Quality Guidelines are applied to this project.

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)
Criteria Air Pollutants			
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards for Single Sources			
Excess Cancer Risk	>10 per one million		
Hazard Index	>1.0		
Incremental annual $PM_{2.5}$	>0.3 µg/m^3		
Health Risks and Hazards for Combined Sources (Cumulative from all sources within 1,000 foot zone of influence)			
Excess Cancer Risk	>100 per one million		
Hazard Index	>10.0		
Annual Average $PM_{2.5}$	>0.8 µg/m^3		
Greenhouse Gas Emissions			
GHG Annual Emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons or 4.6 metric tons per capita		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less; and GHG = greenhouse gas.

Impact: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable State or federal ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? ***Less than significant with construction-period mitigation measures.***

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These

thresholds are for ozone precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

The California Emissions Estimator Model (CalEEMod) Version 2013.2.2 was used to predict emissions from construction and operation of the site assuming full build out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod.

Construction period emissions

CalEEMod provided annual emissions for construction. CalEEMod provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. A construction build-out scenario, including equipment list and schedule, was provided by the project applicant for the hotel/retail project component. Model defaults for schedule and equipment were used for the entertainment complex. The proposed project land uses were input into CalEEMod, which included: 13.45 acres entered as "Golf Course," 71,225 sf entered as "Racquet Club" for the entertainment complex, and 457 parking spaces entered as "Parking Lot" for the Topgolf entertainment complex project component; and 200 rooms entered as "Hotel," 117,000 sf entered as "Strip Mall," 709 spaces entered as "Enclosed Parking with Elevator," and 178 spaces entered as "Parking Lot" for the hotel and retail project component.

The project would require up to 50,000 cubic yards (cy) of soil import for the hotel/retail component, which was entered into the model. The anticipated 20,000 tons of demolition for the hotel/retail component was also entered into the model. In addition, 25,000 cy of asphalt is anticipated during the paving phase and was entered based on 16cy per truck.

The anticipated construction schedule assumes that the project would be built out over a period of approximately 18 months beginning in 2017, or an estimated 396 construction workdays (assuming an average of 22 construction days per month). Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 2 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, predicted project NO_X emissions would exceed the BAAQMD significance thresholds. However, as shown in Table 2, *implementation of Mitigation Measures AQ-1 and AQ-2 would reduce this impact to a level of less than significant*. *Attachment 2* includes the CalEEMod input and output values for construction emissions.

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 AQ-1 would implement BAAQMD-recommended best management practices*.

Table 2. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Topgolf Entertainment Complex construction emissions (tons)	4.46 tons	7.76 tons	0.38 tons	0.35 tons
Hotel/Retail construction emissions (tons)	3.27 tons	6.07 tons	0.28 tons	0.26 tons
Total construction emissions (tons)	7.73 tons	13.83 tons	0.66 tons	0.61 tons
Average daily emissions (pounds)[1]	39.0 lbs.	69.8 lbs.	3.3 lbs.	3.1 lbs.
BAAQMD Thresholds (pounds per day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	**No**	**Yes**	**No**	**No**
With Tier 4 Construction Mitigation				
Topgolf Entertainment Complex construction emissions (tons)	3.97 tons	2.57 tons	0.06 tons	0.05 tons
Hotel/Retail construction emissions (tons)	2.90 tons	2.31 tons	0.03 tons	0.03 tons
Total construction emissions (tons)	6.87 tons	4.88 tons	0.09 tons	0.08 tons
Average daily emissions (pounds)[1]	34.7 lbs.	24.6 lbs.	0.5 lbs.	0.4 lbs.
BAAQMD Thresholds (pounds per day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	**No**	**No**	**No**	**No**

Notes: [1]Assumes 396 workdays.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents and employees. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to predict net emissions from operation of the proposed project assuming full build-out.

Land Uses

The proposed project land uses were input to CalEEMod, which included 13.45 acres entered as "Golf Course," 200 rooms entered as "Hotel," 117,000 sf entered as "Strip Mall," 71,225 sf entered as "Racquet Club," 709 spaces entered as "Enclosed Parking with Elevator," and 635 spaces entered as "Parking Lot." An Existing run was conducted to determine emissions from existing on-site uses, which included 3 holes as "Golf Course."

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest full year the buildout project could possibly be constructed and begin operating would be 2019. Emissions associated with build-out later than 2019 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project traffic report. The trip rates accounted for the trip reductions due to the mixed-use nature of the project and retail pass-by trips. The default trip lengths and trip types specified by CalEEMod were used.

Consumer Products

CalEEMod computes emissions associated with consumer products[3] for all land uses, regardless of their types. This is an unrealistic default assumption because certain land uses (e.g., parking structures) are not associated with the use of consumer products. For this analysis, the parking structures are not considered sources of consumer product ROG emissions. To correct for this assumption, a separate model run for the parking structure was developed to compute the consumer product emissions that the model erroneously generates for the parking structures. These emissions were subtracted from the modeled project emissions. No other adjustments were made in CalEEMod for area sources.

Energy

The 2013 Title 24 Building Standards became effective July 1, 2014 and are predicted to use 25 percent less energy for lighting, heating, cooling, ventilation, and water heating for residential uses and 30 percent less energy for non-residential uses than the 2008 standards that CalEEMod incorporates.[4] Therefore, the CalEEMod project run was adjusted to account for the greater energy efficiency.

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project.

Table 3 reports the predicted emission in terms of annual emissions in tons and average daily operational emissions, assuming 365 days of operation per year. As shown in Table 3, average daily and annual emissions of ROG, NOx, PM_{10}, or $PM_{2.5}$ emissions associated with operation would not exceed the BAAQMD significance thresholds.

[3] Per the CalEEMod User's Guide: "Consumer products are chemically formulated products used by household and institutional consumers, including, but not limited to, detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products"

[4] California Energy Commission, 2014. *New Title 24 Standards Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions*. July. Available online: http://www.energy.ca.gov/releases/2014_releases/2014-07-01_new_title24_standards_nr.html

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Annual Project Operational emissions (tons)	9.36 tons	6.44 tons	4.96 tons	1.40 tons
Existing Operational Emissions (tons)	0.15 tons	0.28 tons	0.17 tons	0.05 tons
Adjustment for Parking Structure Consumer Products ROG	1.11 tons	--	--	--
Total Net Project Operational emissions (tons)	8.10 tons	6.16 tons	4.79 tons	1.35 tons
BAAQMD Thresholds (tons per year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	**No**	***No***	**No**	**No**
Average Daily Net Project Operational Emissions (pounds)[1]	44.4 lbs.	33.8 lbs.	26.2 lbs.	7.4 lbs.
BAAQMD Thresholds (pounds per day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	**No**	**No**	**No**	**No**

[1] Assumes 365-day operation.

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.

***Mitigation Measure AQ-2*: Use of newer, retrofitted or alternatively powered construction equipment to minimize emissions. Such equipment selection would include the following:**

All diesel-powered construction equipment larger than 50 horsepower and operating on site for more than two days continuously shall meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent. *Note that the construction contractor could use other measures to minimize construction period DPM emissions to reduce the predicted cancer risk below the thresholds. Such measures may be the use of alternative powered equipment (e.g., LPG powered forklifts), alternative fuels (e.g., biofuels), added exhaust devices, or a combination of measures, provided that these measures are approved by the lead agency.*

Impact: Expose sensitive receptors to substantial pollutant concentrations? ***Less than significant with construction period mitigation.***

Project construction would be a temporary source of TAC emissions. Most on-site construction equipment would be diesel-powered. DPM that would be emitted from this equipment and trucks used during construction, is a TAC that can elevate cancer risk and $PM_{2.5}$ concentrations.

The closest sensitive receptor to the project site is an existing residence next to the northwest corner of the site. There are other residences at further distances in to the north, south, and west from the project site. Additionally, George Mayne Elementary School is located north of the project site, across N. 1st Street from the site. A health risk assessment of the project

construction activities was conducted that evaluated potential health effects at nearby sensitive receptors from construction emissions of DPM. A dispersion model was used to predict the off-site concentrations resulting from project construction so that lifetime cancer risks could be predicted. Figure 1 shows the project site and sensitive receptor locations (residences and school site receptors) used in the air quality dispersion modeling analysis where potential health impacts were evaluated.

On-Site Construction TAC Emissions

Construction period emissions were computed using CalEEMod along with projected construction activity, as described above. The CalEEMod model provided total annual $PM_{2.5}$ exhaust emissions (assumed to be DPM) for the off road construction equipment used for construction of the project and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles) of 0.567 tons (1,135 pounds) over the construction period. A trip length of one-half mile was used to represent vehicle travel while at or near the construction site. For modeling purposes, it was assumed that these emissions from on-road vehicles would occur at the construction site. Fugitive dust $PM_{2.5}$ emissions were also computed and included in this analysis. The model predicts emissions of 0.206 tons (412 pounds) of fugitive $PM_{2.5}$ over the construction period. The construction schedule and equipment usage projections were provided and are included in *Attachment 2.*

Dispersion Modeling

The U.S. EPA ISCST3 dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences and school) in the vicinity of the project construction area. The ISCST3 dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[5]

The ISCST3 modeling utilized area sources to represent different areas of on-site construction activities. For each construction area modeled two area sources were used 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 a.m. to 4 p.m., when the majority of construction activity would occur.

The modeling used a 5-year meteorological data set (1996-2000) from a meteorological monitoring station in Alviso, about 1.2 miles northeast of the project site. These data were prepared for use with the ISCST3 model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2017-2018 period were calculated using

[5] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 1.5 meters (4.9 feet) for residences and 1.0 meter (3.3 feet) for the elementary school receptors were used to represent the breathing heights of the residents and school children.

The maximum-modeled DPM and $PM_{2.5}$ concentrations occurred north of the site at a residence adjacent to N. 1st Street, as shown in Figure 1 for the maximally exposed individual (MEI). Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated.

Results of this assessment indicate that the maximum increased residential cancer risks would be 47.9 in one million for an infant exposure and 0.8 in one million for an adult exposure. The maximum increased cancer risk for a school child exposure at the George Mayne Elementary School was 2.8 in one million. The maximum residential excess cancer risk would be greater than the BAAQMD significance threshold of 10 in one million.

Predicted Annual $PM_{2.5}$ Concentration

The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions, was 0.4 $\mu g/m^3$, occurring at the residential MEI. The maximum annual $PM_{2.5}$ concentration at the George Mayne Elementary School was 0.2 $\mu g/m^3$. The maximum annual $PM_{2.5}$ concentration at the MEI residential receptor location would exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$.

Non-Cancer Hazards

The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.243 $\mu g/m^3$. The maximum computed HI based on this DPM concentration is 0.05, which is much lower than the BAAQMD significance criterion of a HI greater than 1.0. The maximum HI for a school child would be 0.02, which is also below the BAAQMD significance threshold.

Cumulative Construction Risk

Cumulative TAC impacts associated with construction of the project were assessed by predicting the combined community risk impacts from the project and nearby sources at the sensitive receptor most affected by project construction. A review of the project area identified N. Taylor Street/N. 1st Street as the only other source of TAC emissions that could adversely affect the project construction MEIs. No stationary sources of TACs (e.g., emergency backup generators or gas stations) were identified within 1,000 feet using BAAQMD screening tools. All other roadways near the construction MEIs are assumed to have average daily traffic (ADT) volumes of below 10,000 or below the BAAQMD screening criteria.

For local roadways, BAAQMD has provided a screening calculator to determine if roadways with traffic volumes of over 10,000 vehicles per day may have a significant effect on a proposed project. Based on the cumulative plus project volumes obtained from the project traffic report, and assuming that ADT is approximately ten times peak hour, N. Taylor Street/N. 1st Street

would have an ADT volume of 11,820 in the project area. Using the BAAQMD *Roadway Screening Analysis Calculator* for Santa Clara County for east-west directional roadways and at a distance of approximately 50 feet north of the roadway, estimated cancer risk from N. Taylor Street/N. 1st Street at the construction MEIs would be 5.0 per million[6] and $PM_{2.5}$ concentration would be 0.1 $\mu g/m^3$. Chronic or acute hazard index (HI) for the roadway would be below 0.03. Therefore, when added to the community risk from construction, cumulative cancer risk would be 52.9 in one million and $PM_{2.5}$ concentration would be 0.5 $\mu g/m^3$, which would be below the BAAQMD significance thresholds of 100 in one million and 0.8 $\mu g/m^3$, respectively.

Impact Finding

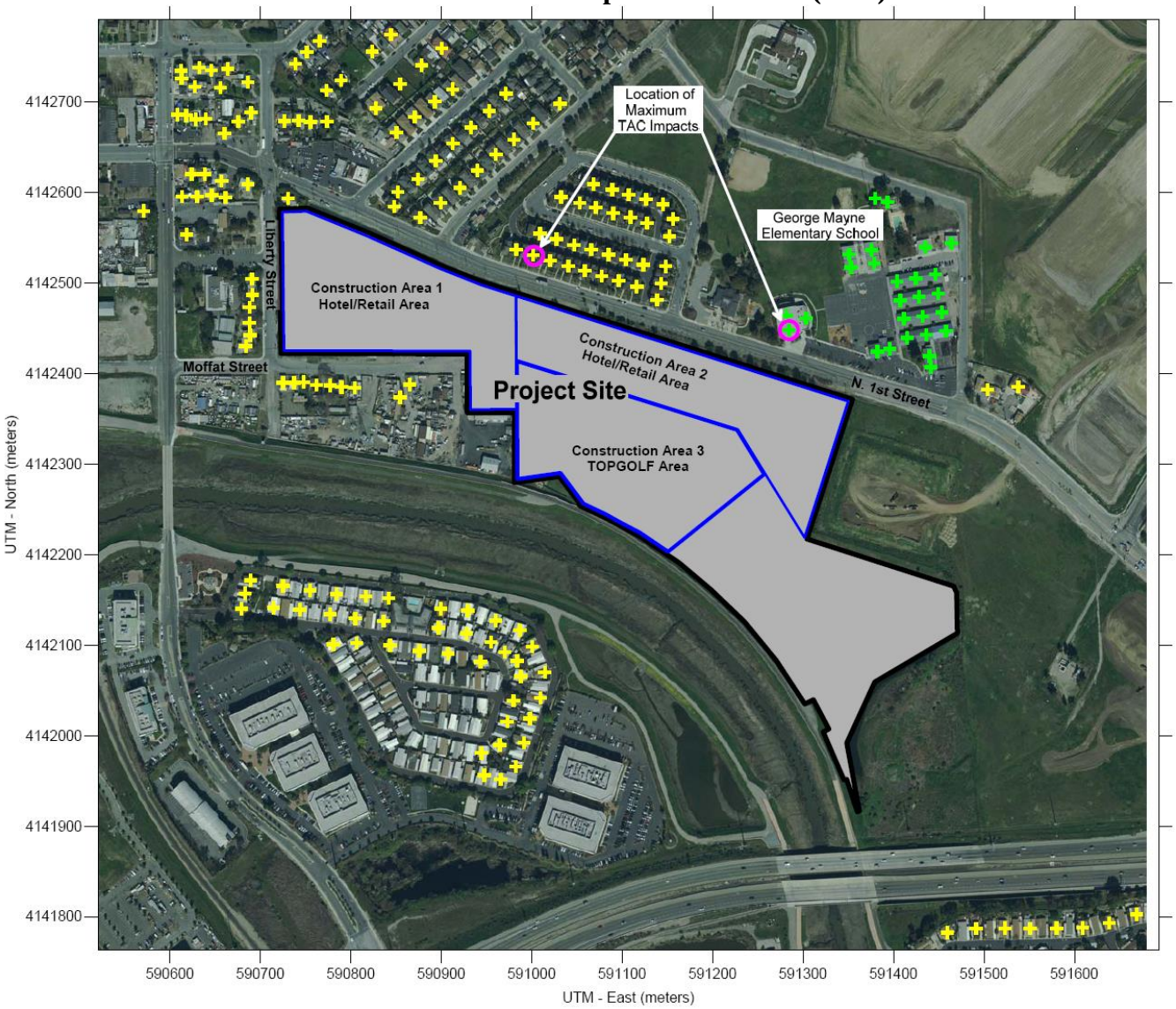
The project would have a *significant impact* with respect to community risk caused by construction activities at nearby residential receptors. Implementation of *Mitigation Measures AQ-1 and AQ-2* would reduce this impact to a level of less than significant. *Attachment 2* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

Effectiveness of Mitigation Measures AQ-1 and AQ-2

Implementation of Mitigation Measure AQ-1 is considered to reduce exhaust emissions by 5 percent. Implementation of Mitigation Measures AQ-2 would further reduce on-site diesel exhaust emissions. This would reduce the cancer risk proportionally, such that the mitigated risk would be less than 3.4 in one million and the maximum annual $PM_{2.5}$ concentration would be reduced to 0.1 $\mu g/m^3$. After implementation of these mitigation measures, the project would have a *less-than-significant* impact with respect to community risk caused by construction activities.

[6] Includes adjustment factor of 1.3744 to account for latest OEHHA methodology per correspondence with Alison Kirk, BAAQMD, November 23, 2015, and a project operational year of 2018 using EMFAC2014 emissions.

Figure 1. Project Construction Site, Sensitive Receptor Locations, and Location of Maximum Exposed Individual (MEI)



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.[7] 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.[8] 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.[9] 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 percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD

[7] 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.
[8] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[9] 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.

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 < 16**	**16 - 30**
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	572	261
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14
Exposure Frequency (days/year)		350	350	350	350
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home		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 Input and Output Worksheets, Construction Schedule, and Risk Calculations

Project Name:		Topgolf, Hotel and Retail component					
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Annual Hours	Comments
	Demolition	**Start Date:**	**3/1/2017**				
		End Date:	3/16/2017				
1	Concrete/Industrial Saws	81	0.4891	6	12	72	**Demolition Volume**
1	Rubber-Tired Dozers	255	0.3953	6	12	72	Square footage of buildings to be demolished
2	Tractors/Loaders/Backhoes	97	0.37	6	12	144	(*or* total tons to be hauled)
							square feet *or*
							__ Hauling volume (tons)
	Site Preperation	**Start Date:**	**3/15/2017**				Any pavement demolished and hauled? 20,000**tons**
		End Date:	3/30/2017				
2	Rubber Tired Dozers	255	0.3953	5	12	120	
2	Tractors/Loaders/Backhoes	97	0.3685	6	12	144	
1	Scrapers	361	0.48	5	12	60	
	Grading / Excavation	**Start Date:**	**4/1/2017**				
		End Date:	5/5/2017				**Soil Hauling Volume**
1	Excavators	162	0.3819	5	25	125	Export volume = **0** cubic yards?
1	Graders	174	0.4087	6	25	150	Import volume = **50,000** cubic yards?
1	Rubber Tired Dozers	255	0.3953	6	25	150	
1	Tractors/Loaders/Backhoes	97	0.3685	6	25	150	
1	Scrapers	361	0.48	6	25	150	
1	Sweepers/Scrubbers	64	0.46	6	25	150	
	Trenching	**Start Date:**	**5/1/2017**				
		End Date:	6/2/2017				
2	Tractor/Loader/Backhoe	97	0.3685	6	25	300	
1	Rollers	80	0.38	6	25	150	
1	Skid Steer Loaders	64	0.37	6	25	150	**Cement**
2	Sweepers/Scrubbers	64	0.46	6	25	300	
	Building - Exterior	**Start Date:**	**6/1/2017**				Cement Trucks? **?** Total Round-Trips
		End Date:	1/10/2018				or cement ____ cy
2	Forklifts	89	0.201	4	160	1280	Liquid Propane (LPG)? (Y/N) (N) Otherwise Assumed diesel
0	Generator Sets	84	0.4958	2	160	0	Or temporary line power? (Y/N) YES_
2	Tractors/Loaders/Backhoes	97	0.3685	5	160	1600	
2	Pumps	84	0.74	8	160	2560	
2	Other Construction Equipment	171	0.42	6	160	1920	
2	Other General Industrial Equipment	150	0.34	6	160	1920	
1	Other Material Handling Equipment	167	0.4	6	160	960	
Building - Interior/Architectural Coating		**Start Date:**	**2/15/2018**				
		End Date:	4/25/2018				
1	Air Compressors	78	0.32	5	50	250	
1	Aerial Lift	62	0.3	4	50	200	
	Paving	**Start Date:**	**7/1/2017**				
		Start Date:	9/8/2017				
1	Cement and Mortar Mixers	9	0.3752	8	50	400	
1	Pavers	125	0.4154	8	50	400	Asphalt? 25,000 cy or _____ round trips
2	Paving Equipment	130	0.3551	8	50	800	
1	Rollers	80	0.3752	8	50	400	
1	Tractors/Loaders/Backhoes	97	0.3685	8	50	400	

Topgolf - Topgolf Complex Construction

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	457.00	Space	0.00	182,800.00	0
Golf Course	13.45	Acre	13.45	585,882.00	0
Racquet Club	71.22	1000sqft	0.00	71,225.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2014
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

Land Use - From plan drawings and PD. 71,225sf structure for hitting bays entered as "Racquet Club"

Construction Phase - Default

Construction Off-road Equipment Mitigation - Tier 4 engines for equip > 50hp. BAAQMD BMPs.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
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
tblLandUse	LandUseSquareFeet	71,220.00	71,225.00
tblLandUse	LotAcreage	4.11	0.00
tblLandUse	LotAcreage	1.63	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.7294	5.7720	6.3986	0.0113	0.6359	0.2832	0.9191	0.2159	0.2642	0.4802	0.0000	950.0080	950.0080	0.1172	0.0000	952.4689
2018	3.7279	1.9913	2.6043	5.1800e-003	0.2131	0.0951	0.3082	0.0576	0.0891	0.1467	0.0000	422.8995	422.8995	0.0433	0.0000	423.8095
Total	**4.4573**	**7.7633**	**9.0029**	**0.0164**	**0.8490**	**0.3784**	**1.2273**	**0.2735**	**0.3534**	**0.6269**	**0.0000**	**1,372.9075**	**1,372.9075**	**0.1605**	**0.0000**	**1,376.2785**

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	0.3598	1.7784	5.9966	0.0113	0.5146	0.0393	0.5540	0.1357	0.0377	0.1734	0.0000	950.0076	950.0076	0.1172	0.0000	952.4685
2018	3.6146	0.7951	2.6404	5.1800e-003	0.2131	0.0175	0.2306	0.0576	0.0167	0.0743	0.0000	422.8993	422.8993	0.0433	0.0000	423.8094
Total	**3.9744**	**2.5735**	**8.6370**	**0.0164**	**0.7277**	**0.0568**	**0.7845**	**0.1932**	**0.0544**	**0.2477**	**0.0000**	**1,372.9069**	**1,372.9069**	**0.1605**	**0.0000**	**1,376.2778**

	ROG	NOx	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	**10.83**	**66.85**	**4.06**	**0.00**	**14.28**	**84.98**	**36.08**	**29.35**	**84.60**	**60.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	

3	Grading	Grading	2/11/2017	3/24/2017	5	30	
4	Building Construction	Building Construction	3/25/2017	5/18/2018	5	300	
5	Paving	Paving	5/19/2018	6/15/2018	5	20	
6	Architectural Coating	Architectural Coating	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 993,887; Non-Residential Outdoor: 331,296 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	353.00	138.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	71.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

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	5.0000e-004	7.0000e-004	6.8200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1574	1.1574	6.0000e-005	0.0000	1.1586
Total	**5.0000e-004**	**7.0000e-004**	**6.8200e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1574**	**1.1574**	**6.0000e-005**	**0.0000**	**1.1586**

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	4.7400e-003	0.0205	0.2383	4.0000e-004		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**4.7400e-003**	**0.0205**	**0.2383**	**4.0000e-004**		**6.3000e-004**	**6.3000e-004**		**6.3000e-004**	**6.3000e-004**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

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	5.0000e-004	7.0000e-004	6.8200e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1574	1.1574	6.0000e-005	0.0000	1.1586
Total	**5.0000e-004**	**7.0000e-004**	**6.8200e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1574**	**1.1574**	**6.0000e-005**	**0.0000**	**1.1586**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0903**	**0.0138**	**0.1041**	**0.0497**	**0.0127**	**0.0623**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	4.2000e-004	4.0900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6944	0.6944	4.0000e-005	0.0000	0.6952
Total	**3.0000e-004**	**4.2000e-004**	**4.0900e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6944**	**0.6944**	**4.0000e-005**	**0.0000**	**0.6952**

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					0.0407	0.0000	0.0407	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3800e-003	0.0103	0.1062	2.0000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**2.3800e-003**	**0.0103**	**0.1062**	**2.0000e-004**	**0.0407**	**3.2000e-004**	**0.0410**	**0.0112**	**3.2000e-004**	**0.0115**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	4.2000e-004	4.0900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6944	0.6944	4.0000e-005	0.0000	0.6952
Total	**3.0000e-004**	**4.2000e-004**	**4.0900e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6944**	**0.6944**	**4.0000e-005**	**0.0000**	**0.6952**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0915	1.0439	0.7021	9.3000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	85.9109	85.9109	0.0263	0.0000	86.4637
Total	**0.0915**	**1.0439**	**0.7021**	**9.3000e-004**	**0.1301**	**0.0498**	**0.1799**	**0.0540**	**0.0458**	**0.0997**	**0.0000**	**85.9109**	**85.9109**	**0.0263**	**0.0000**	**86.4637**

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-003	1.4100e-003	0.0136	3.0000e-005	2.7300e-003	2.0000e-005	2.7500e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.3147	2.3147	1.2000e-004	0.0000	2.3172
Total	**1.0000e-003**	**1.4100e-003**	**0.0136**	**3.0000e-005**	**2.7300e-003**	**2.0000e-005**	**2.7500e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.3147**	**2.3147**	**1.2000e-004**	**0.0000**	**2.3172**

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					0.0586	0.0000	0.0586	0.0121	0.0000	0.0121	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0492	0.5217	9.3000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	85.9108	85.9108	0.0263	0.0000	86.4636
Total	**0.0114**	**0.0492**	**0.5217**	**9.3000e-004**	**0.0586**	**1.5100e-003**	**0.0601**	**0.0121**	**1.5100e-003**	**0.0137**	**0.0000**	**85.9108**	**85.9108**	**0.0263**	**0.0000**	**86.4636**

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-003	1.4100e-003	0.0136	3.0000e-005	2.7300e-003	2.0000e-005	2.7500e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.3147	2.3147	1.2000e-004	0.0000	2.3172
Total	**1.0000e-003**	**1.4100e-003**	**0.0136**	**3.0000e-005**	**2.7300e-003**	**2.0000e-005**	**2.7500e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.3147**	**2.3147**	**1.2000e-004**	**0.0000**	**2.3172**

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	0.3102	2.6406	1.8129	2.6800e-003		0.1781	0.1781		0.1673	0.1673	0.0000	239.4791	239.4791	0.0589	0.0000	240.7169

Total	**0.3102**	**2.6406**	**1.8129**	**2.6800e-003**		**0.1781**	**0.1781**		**0.1673**	**0.1673**	**0.0000**	**239.4791**	**239.4791**	**0.0589**	**0.0000**	**240.7169**

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	0.1435	1.2337	1.7193	3.2800e-003	0.0891	0.0178	0.1070	0.0256	0.0164	0.0420	0.0000	293.3128	293.3128	2.2800e-003	0.0000	293.3606
Worker	0.1176	0.1656	1.6039	3.7200e-003	0.3214	2.4500e-003	0.3239	0.0855	2.2600e-003	0.0877	0.0000	272.3629	272.3629	0.0138	0.0000	272.6533
Total	**0.2612**	**1.3993**	**3.3232**	**7.0000e-003**	**0.4105**	**0.0203**	**0.4308**	**0.1110**	**0.0187**	**0.1297**	**0.0000**	**565.6757**	**565.6757**	**0.0161**	**0.0000**	**566.0138**

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	0.0784	0.2966	1.7827	2.6800e-003		0.0166	0.0166		0.0166	0.0166	0.0000	239.4788	239.4788	0.0589	0.0000	240.7166
Total	**0.0784**	**0.2966**	**1.7827**	**2.6800e-003**		**0.0166**	**0.0166**		**0.0166**	**0.0166**	**0.0000**	**239.4788**	**239.4788**	**0.0589**	**0.0000**	**240.7166**

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	0.1435	1.2337	1.7193	3.2800e-003	0.0891	0.0178	0.1070	0.0256	0.0164	0.0420	0.0000	293.3128	293.3128	2.2800e-003	0.0000	293.3606
Worker	0.1176	0.1656	1.6039	3.7200e-003	0.3214	2.4500e-003	0.3239	0.0855	2.2600e-003	0.0877	0.0000	272.3629	272.3629	0.0138	0.0000	272.6533
Total	**0.2612**	**1.3993**	**3.3232**	**7.0000e-003**	**0.4105**	**0.0203**	**0.4308**	**0.1110**	**0.0187**	**0.1297**	**0.0000**	**565.6757**	**565.6757**	**0.0161**	**0.0000**	**566.0138**

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	0.1334	1.1630	0.8766	1.3400e-003		0.0747	0.0747		0.0702	0.0702	0.0000	118.3848	118.3848	0.0290	0.0000	118.9932
Total	**0.1334**	**1.1630**	**0.8766**	**1.3400e-003**		**0.0747**	**0.0747**		**0.0702**	**0.0702**	**0.0000**	**118.3848**	**118.3848**	**0.0290**	**0.0000**	**118.9932**

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	0.0650	0.5584	0.8097	1.6400e-003	0.0446	8.2600e-003	0.0528	0.0128	7.6000e-003	0.0204	0.0000	144.0933	144.0933	1.1200e-003	0.0000	144.1168
Worker	0.0528	0.0745	0.7194	1.8600e-003	0.1607	1.1900e-003	0.1619	0.0427	1.1000e-003	0.0438	0.0000	131.1109	131.1109	6.3500e-003	0.0000	131.2443
Total	**0.1178**	**0.6329**	**1.5291**	**3.5000e-003**	**0.2053**	**9.4500e-003**	**0.2147**	**0.0555**	**8.7000e-003**	**0.0642**	**0.0000**	**275.2042**	**275.2042**	**7.4700e-003**	**0.0000**	**275.3611**

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	0.0362	0.1453	0.8887	1.3400e-003		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	118.3847	118.3847	0.0290	0.0000	118.9931
Total	**0.0362**	**0.1453**	**0.8887**	**1.3400e-003**		**7.5600e-003**	**7.5600e-003**		**7.5600e-003**	**7.5600e-003**	**0.0000**	**118.3847**	**118.3847**	**0.0290**	**0.0000**	**118.9931**

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	0.0650	0.5584	0.8097	1.6400e-003	0.0446	8.2600e-003	0.0528	0.0128	7.6000e-003	0.0204	0.0000	144.0933	144.0933	1.1200e-003	0.0000	144.1168
Worker	0.0528	0.0745	0.7194	1.8600e-003	0.1607	1.1900e-003	0.1619	0.0427	1.1000e-003	0.0438	0.0000	131.1109	131.1109	6.3500e-003	0.0000	131.2443
Total	**0.1178**	**0.6329**	**1.5291**	**3.5000e-003**	**0.2053**	**9.4500e-003**	**0.2147**	**0.0555**	**8.7000e-003**	**0.0642**	**0.0000**	**275.2042**	**275.2042**	**7.4700e-003**	**0.0000**	**275.3611**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0161**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

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	4.5000e-004	6.3000e-004	6.1100e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1143	1.1143	5.0000e-005	0.0000	1.1154
Total	**4.5000e-004**	**6.3000e-004**	**6.1100e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1143**	**1.1143**	**5.0000e-005**	**0.0000**	**1.1154**

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	2.7500e-003	0.0119	0.1693	2.2000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.7500e-003**	**0.0119**	**0.1693**	**2.2000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

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	4.5000e-004	6.3000e-004	6.1100e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1143	1.1143	5.0000e-005	0.0000	1.1154
Total	**4.5000e-004**	**6.3000e-004**	**6.1100e-003**	**2.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1143**	**1.1143**	**5.0000e-005**	**0.0000**	**1.1154**

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	3.4550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**3.4580**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

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	2.1300e-003	3.0000e-003	0.0289	7.0000e-005	6.4600e-003	5.0000e-005	6.5100e-003	1.7200e-003	4.0000e-005	1.7600e-003	0.0000	5.2742	5.2742	2.6000e-004	0.0000	5.2795
Total	**2.1300e-003**	**3.0000e-003**	**0.0289**	**7.0000e-005**	**6.4600e-003**	**5.0000e-005**	**6.5100e-003**	**1.7200e-003**	**4.0000e-005**	**1.7600e-003**	**0.0000**	**5.2742**	**5.2742**	**2.6000e-004**	**0.0000**	**5.2795**

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	3.4550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**3.4553**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

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	2.1300e-003	3.0000e-003	0.0289	7.0000e-005	6.4600e-003	5.0000e-005	6.5100e-003	1.7200e-003	4.0000e-005	1.7600e-003	0.0000	5.2742	5.2742	2.6000e-004	0.0000	5.2795
Total	**2.1300e-003**	**3.0000e-003**	**0.0289**	**7.0000e-005**	**6.4600e-003**	**5.0000e-005**	**6.5100e-003**	**1.7200e-003**	**4.0000e-005**	**1.7600e-003**	**0.0000**	**5.2742**	**5.2742**	**2.6000e-004**	**0.0000**	**5.2795**

Topgolf - Topgolf Complex Construction TAC

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Golf Course	13.45	Acre	13.45	585,882.00	0
Racquet Club	71.23	1000sqft	0.00	71,225.00	0
Parking Lot	457.00	Space	0.00	182,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2014
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

Land Use - From plan drawings and PD. 71,225sf structure for hitting bays entered as "Racquet Club"

Construction Phase - Default

Trips and VMT - 0.5mi trip lengths

Construction Off-road Equipment Mitigation - Tier 4 engines for equip > 50hp. BAAQMD BMPs.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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
tblLandUse	LotAcreage	1.64	0.00
tblLandUse	LotAcreage	4.11	0.00
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	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	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	0.6531	4.7282	4.8157	4.9200e-003	0.2404	0.2653	0.5056	0.1091	0.2477	0.3568	0.0000	438.0609	438.0609	0.1030	0.0000	440.2244
2018	3.6931	1.5223	1.8696	1.9500e-003	0.0102	0.0867	0.0969	2.8100e-003	0.0814	0.0842	0.0000	169.8464	169.8464	0.0366	0.0000	170.6145
Total	**4.3462**	**6.2505**	**6.6853**	**6.8700e-003**	**0.2505**	**0.3520**	**0.6025**	**0.1119**	**0.3291**	**0.4410**	**0.0000**	**607.9073**	**607.9073**	**0.1396**	**0.0000**	**610.8389**

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	0.2835	0.7346	4.4136	4.9200e-003	0.1191	0.0214	0.1405	0.0288	0.0212	0.0500	0.0000	438.0605	438.0605	0.1030	0.0000	440.2239
2018	3.5798	0.3261	1.9058	1.9500e-003	0.0102	9.0700e-003	0.0193	2.8100e-003	8.9800e-003	0.0118	0.0000	169.8463	169.8463	0.0366	0.0000	170.6144
Total	**3.8633**	**1.0607**	**6.3194**	**6.8700e-003**	**0.1293**	**0.0305**	**0.1597**	**0.0316**	**0.0302**	**0.0618**	**0.0000**	**607.9067**	**607.9067**	**0.1396**	**0.0000**	**610.8383**

	ROG	NOx	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	**11.11**	**83.03**	**5.47**	**0.00**	**48.39**	**91.35**	**73.49**	**71.74**	**90.84**	**85.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/11/2017	3/24/2017	5	30	
4	Building Construction	Building Construction	3/25/2017	5/18/2018	5	300	
5	Paving	Paving	5/19/2018	6/15/2018	5	20	
6	Architectural Coating	Architectural Coating	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 993,887; Non-Residential Outdoor: 331,296 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Building Construction	9	353.00	138.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	71.00	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

Use Soil Stabilizer

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	1.0000e-004	1.3000e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0752	0.0752	1.0000e-005	0.0000	0.0753

Total	**3.7000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0752**	**0.0752**	**1.0000e-005**	**0.0000**	**0.0753**

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	4.7400e-003	0.0205	0.2383	4.0000e-004		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**4.7400e-003**	**0.0205**	**0.2383**	**4.0000e-004**		**6.3000e-004**	**6.3000e-004**		**6.3000e-004**	**6.3000e-004**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	1.0000e-004	1.3000e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0752	0.0752	1.0000e-005	0.0000	0.0753
Total	**3.7000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0752**	**0.0752**	**1.0000e-005**	**0.0000**	**0.0753**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0903**	**0.0138**	**0.1041**	**0.0497**	**0.0127**	**0.0623**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

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	2.2000e-004	6.0000e-005	7.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0451	0.0451	0.0000	0.0000	0.0452
Total	**2.2000e-004**	**6.0000e-005**	**7.8000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0451**	**0.0451**	**0.0000**	**0.0000**	**0.0452**

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					0.0407	0.0000	0.0407	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3800e-003	0.0103	0.1062	2.0000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**2.3800e-003**	**0.0103**	**0.1062**	**2.0000e-004**	**0.0407**	**3.2000e-004**	**0.0410**	**0.0112**	**3.2000e-004**	**0.0115**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

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	2.2000e-004	6.0000e-005	7.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0451	0.0451	0.0000	0.0000	0.0452
Total	**2.2000e-004**	**6.0000e-005**	**7.8000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0451**	**0.0451**	**0.0000**	**0.0000**	**0.0452**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0915	1.0439	0.7021	9.3000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	85.9109	85.9109	0.0263	0.0000	86.4637
Total	**0.0915**	**1.0439**	**0.7021**	**9.3000e-004**	**0.1301**	**0.0498**	**0.1799**	**0.0540**	**0.0458**	**0.0997**	**0.0000**	**85.9109**	**85.9109**	**0.0263**	**0.0000**	**86.4637**

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	7.3000e-004	1.9000e-004	2.6100e-003	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1504	0.1504	1.0000e-005	0.0000	0.1507
Total	**7.3000e-004**	**1.9000e-004**	**2.6100e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1504**	**0.1504**	**1.0000e-005**	**0.0000**	**0.1507**

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					0.0586	0.0000	0.0586	0.0121	0.0000	0.0121	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0492	0.5217	9.3000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	85.9108	85.9108	0.0263	0.0000	86.4636
Total	**0.0114**	**0.0492**	**0.5217**	**9.3000e-004**	**0.0586**	**1.5100e-003**	**0.0601**	**0.0121**	**1.5100e-003**	**0.0137**	**0.0000**	**85.9108**	**85.9108**	**0.0263**	**0.0000**	**86.4636**

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	7.3000e-004	1.9000e-004	2.6100e-003	0.0000	1.1000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1504	0.1504	1.0000e-005	0.0000	0.1507
Total	**7.3000e-004**	**1.9000e-004**	**2.6100e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1504**	**0.1504**	**1.0000e-005**	**0.0000**	**0.1507**

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	0.3102	2.6406	1.8129	2.6800e-003		0.1781	0.1781		0.1673	0.1673	0.0000	239.4791	239.4791	0.0589	0.0000	240.7169
Total	**0.3102**	**2.6406**	**1.8129**	**2.6800e-003**		**0.1781**	**0.1781**		**0.1673**	**0.1673**	**0.0000**	**239.4791**	**239.4791**	**0.0589**	**0.0000**	**240.7169**

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	0.0990	0.3348	1.4531	4.7000e-004	6.4200e-003	1.9900e-003	8.4100e-003	1.8700e-003	1.8200e-003	3.6900e-003	0.0000	39.9303	39.9303	5.8000e-004	0.0000	39.9425
Worker	0.0864	0.0229	0.3070	2.4000e-004	0.0133	3.8000e-004	0.0137	3.5800e-003	3.5000e-004	3.9300e-003	0.0000	17.6940	17.6940	1.5500e-003	0.0000	17.7265

Total	**0.1854**	**0.3576**	**1.7601**	**7.1000e-004**	**0.0197**	**2.3700e-003**	**0.0221**	**5.4500e-003**	**2.1700e-003**	**7.6200e-003**	**0.0000**	**57.6243**	**57.6243**	**2.1300e-003**	**0.0000**	**57.6690**

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	0.0784	0.2966	1.7827	2.6800e-003		0.0166	0.0166		0.0166	0.0166	0.0000	239.4788	239.4788	0.0589	0.0000	240.7166
Total	**0.0784**	**0.2966**	**1.7827**	**2.6800e-003**		**0.0166**	**0.0166**		**0.0166**	**0.0166**	**0.0000**	**239.4788**	**239.4788**	**0.0589**	**0.0000**	**240.7166**

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	0.0990	0.3348	1.4531	4.7000e-004	6.4200e-003	1.9900e-003	8.4100e-003	1.8700e-003	1.8200e-003	3.6900e-003	0.0000	39.9303	39.9303	5.8000e-004	0.0000	39.9425
Worker	0.0864	0.0229	0.3070	2.4000e-004	0.0133	3.8000e-004	0.0137	3.5800e-003	3.5000e-004	3.9300e-003	0.0000	17.6940	17.6940	1.5500e-003	0.0000	17.7265
Total	**0.1854**	**0.3576**	**1.7601**	**7.1000e-004**	**0.0197**	**2.3700e-003**	**0.0221**	**5.4500e-003**	**2.1700e-003**	**7.6200e-003**	**0.0000**	**57.6243**	**57.6243**	**2.1300e-003**	**0.0000**	**57.6690**

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	0.1334	1.1630	0.8766	1.3400e-003		0.0747	0.0747		0.0702	0.0702	0.0000	118.3848	118.3848	0.0290	0.0000	118.9932
Total	**0.1334**	**1.1630**	**0.8766**	**1.3400e-003**		**0.0747**	**0.0747**		**0.0702**	**0.0702**	**0.0000**	**118.3848**	**118.3848**	**0.0290**	**0.0000**	**118.9932**

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	0.0436	0.1569	0.6844	2.3000e-004	3.2100e-003	9.1000e-004	4.1200e-003	9.4000e-004	8.3000e-004	1.7700e-003	0.0000	19.6053	19.6053	2.9000e-004	0.0000	19.6114
Worker	0.0400	0.0102	0.1384	1.2000e-004	6.6500e-003	1.9000e-004	6.8400e-003	1.7900e-003	1.7000e-004	1.9600e-003	0.0000	8.5192	8.5192	6.9000e-004	0.0000	8.5338
Total	**0.0836**	**0.1671**	**0.8228**	**3.5000e-004**	**9.8600e-003**	**1.1000e-003**	**0.0110**	**2.7300e-003**	**1.0000e-003**	**3.7300e-003**	**0.0000**	**28.1245**	**28.1245**	**9.8000e-004**	**0.0000**	**28.1452**

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	0.0362	0.1453	0.8887	1.3400e-003		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	118.3847	118.3847	0.0290	0.0000	118.9931
Total	**0.0362**	**0.1453**	**0.8887**	**1.3400e-003**		**7.5600e-003**	**7.5600e-003**		**7.5600e-003**	**7.5600e-003**	**0.0000**	**118.3847**	**118.3847**	**0.0290**	**0.0000**	**118.9931**

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	0.0436	0.1569	0.6844	2.3000e-004	3.2100e-003	9.1000e-004	4.1200e-003	9.4000e-004	8.3000e-004	1.7700e-003	0.0000	19.6053	19.6053	2.9000e-004	0.0000	19.6114
Worker	0.0400	0.0102	0.1384	1.2000e-004	6.6500e-003	1.9000e-004	6.8400e-003	1.7900e-003	1.7000e-004	1.9600e-003	0.0000	8.5192	8.5192	6.9000e-004	0.0000	8.5338
Total	**0.0836**	**0.1671**	**0.8228**	**3.5000e-004**	**9.8600e-003**	**1.1000e-003**	**0.0110**	**2.7300e-003**	**1.0000e-003**	**3.7300e-003**	**0.0000**	**28.1245**	**28.1245**	**9.8000e-004**	**0.0000**	**28.1452**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0161**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	9.0000e-005	1.1800e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0724	0.0724	1.0000e-005	0.0000	0.0725
Total	**3.4000e-004**	**9.0000e-005**	**1.1800e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0724**	**0.0724**	**1.0000e-005**	**0.0000**	**0.0725**

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	2.7500e-003	0.0119	0.1693	2.2000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.7500e-003**	**0.0119**	**0.1693**	**2.2000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	9.0000e-005	1.1800e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0724	0.0724	1.0000e-005	0.0000	0.0725
Total	**3.4000e-004**	**9.0000e-005**	**1.1800e-003**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0724**	**0.0724**	**1.0000e-005**	**0.0000**	**0.0725**

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	3.4550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**3.4580**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

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	1.6100e-003	4.1000e-004	5.5700e-003	0.0000	2.7000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.3427	0.3427	3.0000e-005	0.0000	0.3433

Total	**1.6100e-003**	**4.1000e-004**	**5.5700e-003**	**0.0000**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**7.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.3427**	**0.3427**	**3.0000e-005**	**0.0000**	**0.3433**

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	3.4550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**3.4553**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

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	1.6100e-003	4.1000e-004	5.5700e-003	0.0000	2.7000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.3427	0.3427	3.0000e-005	0.0000	0.3433
Total	**1.6100e-003**	**4.1000e-004**	**5.5700e-003**	**0.0000**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**7.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.3427**	**0.3427**	**3.0000e-005**	**0.0000**	**0.3433**

Topgolf - Retail/Hotel Construction

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	709.00	Space	0.00	283,600.00	0
Parking Lot	178.00	Space	0.00	71,200.00	0
Hotel	200.00	Room	16.70	96,000.00	0
Strip Mall	117.00	1000sqft	0.00	117,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2014
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

Land Use - From plan drawings and PD.

Construction Phase - Anticipated phasing schedule provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Trips and VMT - Paving: 25,000cy asphalt @ 16cy/truck = 3,126 trips. Vendor trip length for aspahlt.

Demolition - 20,000 tons demo

Grading - 50,000cy import

Construction Off-road Equipment Mitigation - Tier 4 engines for equip > 50hp. BAAQMD BMPs.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
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
tblConstructionPhase	NumDays	20.00	50.00
tblConstructionPhase	NumDays	300.00	160.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	30.00	25.00
tblConstructionPhase	NumDays	20.00	50.00
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	PhaseEndDate	11/17/2017	4/25/2018
tblConstructionPhase	PhaseEndDate	1/12/2018	1/10/2018
tblConstructionPhase	PhaseEndDate	5/4/2017	5/5/2017
tblConstructionPhase	PhaseEndDate	3/21/2018	9/8/2017
tblConstructionPhase	PhaseEndDate	4/3/2017	3/30/2017
tblConstructionPhase	PhaseEndDate	6/9/2017	6/2/2017
tblConstructionPhase	PhaseStartDate	9/9/2017	2/15/2018
tblConstructionPhase	PhaseStartDate	6/3/2017	6/1/2017
tblConstructionPhase	PhaseStartDate	3/31/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	1/11/2018	7/1/2017
tblConstructionPhase	PhaseStartDate	3/17/2017	3/15/2017
tblConstructionPhase	PhaseStartDate	5/6/2017	5/1/2017

tblGrading	MaterialImported	0.00	50,000.00
tblLandUse	LandUseSquareFeet	290,400.00	96,000.00
tblLandUse	LotAcreage	6.38	0.00
tblLandUse	LotAcreage	1.60	0.00
tblLandUse	LotAcreage	6.67	16.70
tblLandUse	LotAcreage	2.69	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	0.00	3,126.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.6373	5.8671	5.6767	0.0111	0.6273	0.2683	0.8956	0.1695	0.2508	0.4202	0.0000	968.4264	968.4264	0.1016	0.0000	970.5603
2018	2.6294	0.2055	0.2739	5.3000e-004	0.0209	0.0113	0.0323	5.6100e-003	0.0109	0.0165	0.0000	42.8976	42.8976	4.8100e-003	0.0000	42.9986
Total	**3.2667**	**6.0726**	**5.9505**	**0.0116**	**0.6482**	**0.2796**	**0.9278**	**0.1751**	**0.2616**	**0.4367**	**0.0000**	**1,011.3240**	**1,011.3240**	**0.1064**	**0.0000**	**1,013.5589**

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	0.2826	2.2460	5.6209	0.0111	0.4418	0.0330	0.4748	0.0992	0.0309	0.1301	0.0000	968.4260	968.4260	0.1016	0.0000	970.5598
2018	2.6130	0.0601	0.2820	5.3000e-004	0.0209	9.2000e-004	0.0218	5.6100e-003	8.7000e-004	6.4800e-003	0.0000	42.8976	42.8976	4.8100e-003	0.0000	42.9986

Total	**2.8956**	**2.3061**	**5.9029**	**0.0116**	**0.4627**	**0.0340**	**0.4966**	**0.1048**	**0.0318**	**0.1366**	**0.0000**	**1,011.3236**	**1,011.3236**	**0.1064**	**0.0000**	**1,013.5584**

	ROG	NOx	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	**11.36**	**62.02**	**0.80**	**0.00**	**28.62**	**87.85**	**46.47**	**40.16**	**87.85**	**68.73**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2017	3/16/2017	5	12	
2	Site Preparation	Site Preparation	3/15/2017	3/30/2017	5	12	
3	Grading	Grading	4/1/2017	5/5/2017	5	25	
4	Trenching	Trenching	5/1/2017	6/2/2017	5	25	
5	Building Construction	Building Construction	6/1/2017	1/10/2018	5	160	
6	Paving	Paving	7/1/2017	9/8/2017	5	50	
7	Architectural Coating	Architectural Coating	2/15/2018	4/25/2018	5	50	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 28.13

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 748,104; Non-Residential Outdoor: 249,368 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Rubber Tired Dozers	2	5.00	255	0.40

Site Preparation	Scrapers	1	5.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Excavators	1	5.00	162	0.38
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Scrapers	1	6.00	361	0.48
Grading	Sweepers/Scrubbers	1	6.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Rollers	1	6.00	80	0.38
Trenching	Skid Steer Loaders	1	6.00	64	0.37
Trenching	Sweepers/Scrubbers	2	6.00	64	0.46
Trenching	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	0	7.00	226	0.29
Building Construction	Forklifts	2	4.00	89	0.20
Building Construction	Generator Sets	0	2.00	84	0.74
Building Construction	Other Construction Equipment	2	6.00	171	0.42
Building Construction	Other General Industrial Equipment	2	6.00	87	0.34
Building Construction	Other Material Handling Equipment	1	6.00	167	0.40
Building Construction	Pumps	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	5.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Aerial Lifts	1	4.00	62	0.31
Architectural Coating	Air Compressors	1	5.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	1,978.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	6,250.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	227.00	93.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	3,126.00	12.40	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	45.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

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					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1059	0.0832	1.0000e-004		6.2000e-003	6.2000e-003		5.8100e-003	5.8100e-003	0.0000	8.7329	8.7329	2.1500e-003	0.0000	8.7780
Total	**0.0108**	**0.1059**	**0.0832**	**1.0000e-004**	**0.2140**	**6.2000e-003**	**0.2202**	**0.0324**	**5.8100e-003**	**0.0382**	**0.0000**	**8.7329**	**8.7329**	**2.1500e-003**	**0.0000**	**8.7780**

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	0.0193	0.2645	0.2153	7.4000e-004	0.0167	3.3900e-003	0.0201	4.5900e-003	3.1200e-003	7.7100e-003	0.0000	66.6029	66.6029	4.8000e-004	0.0000	66.6131
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	2.8000e-004	2.7300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4629	0.4629	2.0000e-005	0.0000	0.4634
Total	**0.0195**	**0.2648**	**0.2181**	**7.5000e-004**	**0.0173**	**3.3900e-003**	**0.0207**	**4.7400e-003**	**3.1200e-003**	**7.8600e-003**	**0.0000**	**67.0659**	**67.0659**	**5.0000e-004**	**0.0000**	**67.0765**

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					0.0963	0.0000	0.0963	7.2900e-003	0.0000	7.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	4.8100e-003	0.0563	1.0000e-004		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.7329	8.7329	2.1500e-003	0.0000	8.7780
Total	**1.1100e-003**	**4.8100e-003**	**0.0563**	**1.0000e-004**	**0.0963**	**1.5000e-004**	**0.0965**	**7.2900e-003**	**1.5000e-004**	**7.4400e-003**	**0.0000**	**8.7329**	**8.7329**	**2.1500e-003**	**0.0000**	**8.7780**

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	0.0193	0.2645	0.2153	7.4000e-004	0.0167	3.3900e-003	0.0201	4.5900e-003	3.1200e-003	7.7100e-003	0.0000	66.6029	66.6029	4.8000e-004	0.0000	66.6131
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	2.8000e-004	2.7300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4629	0.4629	2.0000e-005	0.0000	0.4634
Total	**0.0195**	**0.2648**	**0.2181**	**7.5000e-004**	**0.0173**	**3.3900e-003**	**0.0207**	**4.7400e-003**	**3.1200e-003**	**7.8600e-003**	**0.0000**	**67.0659**	**67.0659**	**5.0000e-004**	**0.0000**	**67.0765**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0167	0.1875	0.1343	1.5000e-004		9.1100e-003	9.1100e-003		8.3800e-003	8.3800e-003	0.0000	13.9725	13.9725	4.2800e-003	0.0000	14.0624
Total	**0.0167**	**0.1875**	**0.1343**	**1.5000e-004**	**0.0491**	**9.1100e-003**	**0.0583**	**0.0253**	**8.3800e-003**	**0.0336**	**0.0000**	**13.9725**	**13.9725**	**4.2800e-003**	**0.0000**	**14.0624**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.7000e-004	3.5400e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6018	0.6018	3.0000e-005	0.0000	0.6025

Total	**2.6000e-004**	**3.7000e-004**	**3.5400e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6018**	**0.6018**	**3.0000e-005**	**0.0000**	**0.6025**

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					0.0221	0.0000	0.0221	5.6800e-003	0.0000	5.6800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	7.9700e-003	0.0760	1.5000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	13.9725	13.9725	4.2800e-003	0.0000	14.0624
Total	**1.8400e-003**	**7.9700e-003**	**0.0760**	**1.5000e-004**	**0.0221**	**2.5000e-004**	**0.0224**	**5.6800e-003**	**2.5000e-004**	**5.9300e-003**	**0.0000**	**13.9725**	**13.9725**	**4.2800e-003**	**0.0000**	**14.0624**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.7000e-004	3.5400e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6018	0.6018	3.0000e-005	0.0000	0.6025
Total	**2.6000e-004**	**3.7000e-004**	**3.5400e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6018**	**0.6018**	**3.0000e-005**	**0.0000**	**0.6025**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0742	0.0000	0.0742	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0416	0.4563	0.3029	3.8000e-004		0.0232	0.0232		0.0213	0.0213	0.0000	34.8710	34.8710	0.0107	0.0000	35.0954
Total	**0.0416**	**0.4563**	**0.3029**	**3.8000e-004**	**0.0742**	**0.0232**	**0.0974**	**0.0331**	**0.0213**	**0.0544**	**0.0000**	**34.8710**	**34.8710**	**0.0107**	**0.0000**	**35.0954**

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	0.0609	0.8357	0.6804	2.3400e-003	0.0528	0.0107	0.0635	0.0145	9.8500e-003	0.0244	0.0000	210.4490	210.4490	1.5300e-003	0.0000	210.4812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	8.8000e-004	8.5200e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.4467	1.4467	7.0000e-005	0.0000	1.4482
Total	**0.0615**	**0.8366**	**0.6889**	**2.3600e-003**	**0.0545**	**0.0107**	**0.0652**	**0.0150**	**9.8600e-003**	**0.0248**	**0.0000**	**211.8957**	**211.8957**	**1.6000e-003**	**0.0000**	**211.9294**

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					0.0334	0.0000	0.0334	7.4400e-003	0.0000	7.4400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8900e-003	0.0320	0.2151	3.8000e-004		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	34.8710	34.8710	0.0107	0.0000	35.0954
Total	**4.8900e-003**	**0.0320**	**0.2151**	**3.8000e-004**	**0.0334**	**6.1000e-004**	**0.0340**	**7.4400e-003**	**6.1000e-004**	**8.0500e-003**	**0.0000**	**34.8710**	**34.8710**	**0.0107**	**0.0000**	**35.0954**

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	0.0609	0.8357	0.6804	2.3400e-003	0.0528	0.0107	0.0635	0.0145	9.8500e-003	0.0244	0.0000	210.4490	210.4490	1.5300e-003	0.0000	210.4812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	8.8000e-004	8.5200e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.4467	1.4467	7.0000e-005	0.0000	1.4482
Total	**0.0615**	**0.8366**	**0.6889**	**2.3600e-003**	**0.0545**	**0.0107**	**0.0652**	**0.0150**	**9.8600e-003**	**0.0248**	**0.0000**	**211.8957**	**211.8957**	**1.6000e-003**	**0.0000**	**211.9294**

3.5 Trenching - 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	0.0169	0.1558	0.1156	1.5000e-004		0.0120	0.0120		0.0111	0.0111	0.0000	13.8844	13.8844	4.2500e-003	0.0000	13.9737
Total	**0.0169**	**0.1558**	**0.1156**	**1.5000e-004**		**0.0120**	**0.0120**		**0.0111**	**0.0111**	**0.0000**	**13.8844**	**13.8844**	**4.2500e-003**	**0.0000**	**13.9737**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	8.8000e-004	8.5200e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.4467	1.4467	7.0000e-005	0.0000	1.4482
Total	**6.2000e-004**	**8.8000e-004**	**8.5200e-003**	**2.0000e-005**	**1.7100e-003**	**1.0000e-005**	**1.7200e-003**	**4.5000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.4467**	**1.4467**	**7.0000e-005**	**0.0000**	**1.4482**

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	2.6500e-003	0.0418	0.1130	1.5000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	13.8844	13.8844	4.2500e-003	0.0000	13.9737
Total	**2.6500e-003**	**0.0418**	**0.1130**	**1.5000e-004**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**13.8844**	**13.8844**	**4.2500e-003**	**0.0000**	**13.9737**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	8.8000e-004	8.5200e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.4467	1.4467	7.0000e-005	0.0000	1.4482
Total	**6.2000e-004**	**8.8000e-004**	**8.5200e-003**	**2.0000e-005**	**1.7100e-003**	**1.0000e-005**	**1.7200e-003**	**4.5000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.4467**	**1.4467**	**7.0000e-005**	**0.0000**	**1.4482**

3.6 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	0.2773	2.5519	1.8496	2.7300e-003		0.1669	0.1669		0.1574	0.1574	0.0000	246.2141	246.2141	0.0565	0.0000	247.4011
Total	**0.2773**	**2.5519**	**1.8496**	**2.7300e-003**		**0.1669**	**0.1669**		**0.1574**	**0.1574**	**0.0000**	**246.2141**	**246.2141**	**0.0565**	**0.0000**	**247.4011**

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	0.0735	0.6319	0.8806	1.6800e-003	0.0457	9.1400e-003	0.0548	0.0131	8.4000e-003	0.0215	0.0000	150.2272	150.2272	1.1700e-003	0.0000	150.2516
Worker	0.0575	0.0809	0.7839	1.8200e-003	0.1571	1.2000e-003	0.1583	0.0418	1.1000e-003	0.0429	0.0000	133.1106	133.1106	6.7600e-003	0.0000	133.2525

Total	**0.1310**	**0.7128**	**1.6645**	**3.5000e-003**	**0.2027**	**0.0103**	**0.2131**	**0.0549**	**9.5000e-003**	**0.0644**	**0.0000**	**283.3378**	**283.3378**	**7.9300e-003**	**0.0000**	**283.5042**

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	0.0313	0.1356	1.9302	2.7300e-003		4.1700e-003	4.1700e-003		4.1700e-003	4.1700e-003	0.0000	246.2138	246.2138	0.0565	0.0000	247.4008
Total	**0.0313**	**0.1356**	**1.9302**	**2.7300e-003**		**4.1700e-003**	**4.1700e-003**		**4.1700e-003**	**4.1700e-003**	**0.0000**	**246.2138**	**246.2138**	**0.0565**	**0.0000**	**247.4008**

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	0.0735	0.6319	0.8806	1.6800e-003	0.0457	9.1400e-003	0.0548	0.0131	8.4000e-003	0.0215	0.0000	150.2272	150.2272	1.1700e-003	0.0000	150.2516
Worker	0.0575	0.0809	0.7839	1.8200e-003	0.1571	1.2000e-003	0.1583	0.0418	1.1000e-003	0.0429	0.0000	133.1106	133.1106	6.7600e-003	0.0000	133.2525
Total	**0.1310**	**0.7128**	**1.6645**	**3.5000e-003**	**0.2027**	**0.0103**	**0.2131**	**0.0549**	**9.5000e-003**	**0.0644**	**0.0000**	**283.3378**	**283.3378**	**7.9300e-003**	**0.0000**	**283.5042**

3.6 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	0.0125	0.1163	0.0953	1.4000e-004		7.3800e-003	7.3800e-003		6.9700e-003	6.9700e-003	0.0000	12.8225	12.8225	2.9300e-003	0.0000	12.8840
Total	**0.0125**	**0.1163**	**0.0953**	**1.4000e-004**		**7.3800e-003**	**7.3800e-003**		**6.9700e-003**	**6.9700e-003**	**0.0000**	**12.8225**	**12.8225**	**2.9300e-003**	**0.0000**	**12.8840**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5000e-003	0.0301	0.0437	9.0000e-005	2.4000e-003	4.5000e-004	2.8500e-003	6.9000e-004	4.1000e-004	1.1000e-003	0.0000	7.7685	7.7685	6.0000e-005	0.0000	7.7698
Worker	2.7200e-003	3.8300e-003	0.0370	1.0000e-004	8.2700e-003	6.0000e-005	8.3300e-003	2.2000e-003	6.0000e-005	2.2500e-003	0.0000	6.7450	6.7450	3.3000e-004	0.0000	6.7518
Total	**6.2200e-003**	**0.0339**	**0.0807**	**1.9000e-004**	**0.0107**	**5.1000e-004**	**0.0112**	**2.8900e-003**	**4.7000e-004**	**3.3500e-003**	**0.0000**	**14.5135**	**14.5135**	**3.9000e-004**	**0.0000**	**14.5216**

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	1.6500e-003	7.1400e-003	0.1016	1.4000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	12.8225	12.8225	2.9300e-003	0.0000	12.8840
Total	**1.6500e-003**	**7.1400e-003**	**0.1016**	**1.4000e-004**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**12.8225**	**12.8225**	**2.9300e-003**	**0.0000**	**12.8840**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5000e-003	0.0301	0.0437	9.0000e-005	2.4000e-003	4.5000e-004	2.8500e-003	6.9000e-004	4.1000e-004	1.1000e-003	0.0000	7.7685	7.7685	6.0000e-005	0.0000	7.7698
Worker	2.7200e-003	3.8300e-003	0.0370	1.0000e-004	8.2700e-003	6.0000e-005	8.3300e-003	2.2000e-003	6.0000e-005	2.2500e-003	0.0000	6.7450	6.7450	3.3000e-004	0.0000	6.7518
Total	**6.2200e-003**	**0.0339**	**0.0807**	**1.9000e-004**	**0.0107**	**5.1000e-004**	**0.0112**	**2.8900e-003**	**4.7000e-004**	**3.3500e-003**	**0.0000**	**14.5135**	**14.5135**	**3.9000e-004**	**0.0000**	**14.5216**

3.7 Paving - 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	0.0403	0.4194	0.3151	4.7000e-004		0.0243	0.0243		0.0224	0.0224	0.0000	43.5372	43.5372	0.0131	0.0000	43.8125
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0403**	**0.4194**	**0.3151**	**4.7000e-004**		**0.0243**	**0.0243**		**0.0224**	**0.0224**	**0.0000**	**43.5372**	**43.5372**	**0.0131**	**0.0000**	**43.8125**

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	0.0196	0.1731	0.2756	4.5000e-004	9.6600e-003	2.0000e-003	0.0117	2.6500e-003	1.8400e-003	4.5000e-003	0.0000	39.9731	39.9731	3.3000e-004	0.0000	39.9800
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	1.2500e-003	1.7600e-003	0.0170	4.0000e-005	3.4100e-003	3.0000e-005	3.4400e-003	9.1000e-004	2.0000e-005	9.3000e-004	0.0000	2.8934	2.8934	1.5000e-004	0.0000	2.8965
Total	**0.0209**	**0.1748**	**0.2927**	**4.9000e-004**	**0.0131**	**2.0300e-003**	**0.0151**	**3.5600e-003**	**1.8600e-003**	**5.4300e-003**	**0.0000**	**42.8664**	**42.8664**	**4.8000e-004**	**0.0000**	**42.8764**

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	7.0900e-003	0.0336	0.3542	4.7000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	43.5372	43.5372	0.0131	0.0000	43.8124
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0900e-003**	**0.0336**	**0.3542**	**4.7000e-004**		**1.1200e-003**	**1.1200e-003**		**1.1200e-003**	**1.1200e-003**	**0.0000**	**43.5372**	**43.5372**	**0.0131**	**0.0000**	**43.8124**

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	0.0196	0.1731	0.2756	4.5000e-004	9.6600e-003	2.0000e-003	0.0117	2.6500e-003	1.8400e-003	4.5000e-003	0.0000	39.9731	39.9731	3.3000e-004	0.0000	39.9800
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	1.2500e-003	1.7600e-003	0.0170	4.0000e-005	3.4100e-003	3.0000e-005	3.4400e-003	9.1000e-004	2.0000e-005	9.3000e-004	0.0000	2.8934	2.8934	1.5000e-004	0.0000	2.8965
Total	**0.0209**	**0.1748**	**0.2927**	**4.9000e-004**	**0.0131**	**2.0300e-003**	**0.0151**	**3.5600e-003**	**1.8600e-003**	**5.4300e-003**	**0.0000**	**42.8664**	**42.8664**	**4.8000e-004**	**0.0000**	**42.8764**

3.8 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	2.6006					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7400e-003	0.0505	0.0521	8.0000e-005		3.3800e-003	3.3800e-003		3.3600e-003	3.3600e-003	0.0000	7.2047	7.2047	1.0900e-003	0.0000	7.2276
Total	**2.6073**	**0.0505**	**0.0521**	**8.0000e-005**		**3.3800e-003**	**3.3800e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.2047**	**7.2047**	**1.0900e-003**	**0.0000**	**7.2276**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3700e-003	4.7500e-003	0.0459	1.2000e-004	0.0102	8.0000e-005	0.0103	2.7200e-003	7.0000e-005	2.7900e-003	0.0000	8.3569	8.3569	4.1000e-004	0.0000	8.3654

Total	**3.3700e-003**	**4.7500e-003**	**0.0459**	**1.2000e-004**	**0.0102**	**8.0000e-005**	**0.0103**	**2.7200e-003**	**7.0000e-005**	**2.7900e-003**	**0.0000**	**8.3569**	**8.3569**	**4.1000e-004**	**0.0000**	**8.3654**

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	2.6006					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0143	0.0539	8.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	7.2047	7.2047	1.0900e-003	0.0000	7.2276
Total	**2.6017**	**0.0143**	**0.0539**	**8.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**7.2047**	**7.2047**	**1.0900e-003**	**0.0000**	**7.2276**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3700e-003	4.7500e-003	0.0459	1.2000e-004	0.0102	8.0000e-005	0.0103	2.7200e-003	7.0000e-005	2.7900e-003	0.0000	8.3569	8.3569	4.1000e-004	0.0000	8.3654
Total	**3.3700e-003**	**4.7500e-003**	**0.0459**	**1.2000e-004**	**0.0102**	**8.0000e-005**	**0.0103**	**2.7200e-003**	**7.0000e-005**	**2.7900e-003**	**0.0000**	**8.3569**	**8.3569**	**4.1000e-004**	**0.0000**	**8.3654**

Topgolf - Retail/Hotel Construction TAC

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	709.00	Space	0.00	283,600.00	0
Parking Lot	178.00	Space	0.00	71,200.00	0
Hotel	200.00	Room	16.70	96,000.00	0
Strip Mall	117.00	1000sqft	0.00	117,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2014
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

Land Use - From plan drawings and PD.

Construction Phase - Anticipated phasing schedule provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Trips and VMT - Paving: 25,000cy asphalt @ 16cy/truck = 3,126 trips. 0.5 mile trip lengths.

Demolition - 20,000 tons demo

Grading - 50,000cy import

Construction Off-road Equipment Mitigation - Tier 4 engines fo equip > 50hp. BAAQMD BMPs.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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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	1.00
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	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
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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

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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tblConstructionPhase	PhaseEndDate	11/17/2017	4/25/2018
tblConstructionPhase	PhaseEndDate	1/12/2018	1/10/2018
tblConstructionPhase	PhaseEndDate	5/4/2017	5/5/2017
tblConstructionPhase	PhaseEndDate	3/21/2018	9/8/2017
tblConstructionPhase	PhaseEndDate	4/3/2017	3/30/2017
tblConstructionPhase	PhaseEndDate	6/9/2017	6/2/2017
tblConstructionPhase	PhaseStartDate	9/9/2017	2/15/2018
tblConstructionPhase	PhaseStartDate	6/3/2017	6/1/2017
tblConstructionPhase	PhaseStartDate	3/31/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	1/11/2018	7/1/2017
tblConstructionPhase	PhaseStartDate	3/17/2017	3/15/2017
tblConstructionPhase	PhaseStartDate	5/6/2017	5/1/2017

tblGrading	MaterialImported	0.00	50,000.00
tblLandUse	LandUseSquareFeet	290,400.00	96,000.00
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tblLandUse	LotAcreage	1.60	0.00
tblLandUse	LotAcreage	6.67	16.70
tblLandUse	LotAcreage	2.69	0.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
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tblTripsAndVMT	WorkerTripLength	12.40	0.50
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tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	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	0.5488	4.2123	4.5778	4.5500e-003	0.3500	0.2437	0.5937	0.0942	0.2282	0.3224	0.0000	408.9793	408.9793	0.0924	0.0000	410.9204
2018	2.6268	0.1764	0.2002	2.5000e-004	9.4000e-004	0.0108	0.0118	2.6000e-004	0.0104	0.0107	0.0000	22.0655	22.0655	4.1100e-003	0.0000	22.1519
Total	**3.1756**	**4.3887**	**4.7780**	**4.8000e-003**	**0.3509**	**0.2546**	**0.6055**	**0.0945**	**0.2386**	**0.3331**	**0.0000**	**431.0447**	**431.0447**	**0.0965**	**0.0000**	**433.0722**

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	0.1942	0.5912	4.5220	4.5500e-003	0.1644	8.5100e-003	0.1730	0.0239	8.3500e-003	0.0323	0.0000	408.9788	408.9788	0.0924	0.0000	410.9199
2018	2.6103	0.0311	0.2083	2.5000e-004	9.4000e-004	4.1000e-004	1.3500e-003	2.6000e-004	4.0000e-004	6.6000e-004	0.0000	22.0654	22.0654	4.1100e-003	0.0000	22.1518
Total	**2.8045**	**0.6223**	**4.7303**	**4.8000e-003**	**0.1654**	**8.9200e-003**	**0.1743**	**0.0242**	**8.7500e-003**	**0.0329**	**0.0000**	**431.0443**	**431.0443**	**0.0965**	**0.0000**	**433.0718**

	ROG	NOx	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	**11.69**	**85.82**	**1.00**	**0.00**	**52.87**	**96.50**	**71.21**	**74.42**	**96.33**	**90.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description

1	Demolition	Demolition	3/1/2017	3/16/2017	5	12	
2	Site Preparation	Site Preparation	3/15/2017	3/30/2017	5	12	
3	Grading	Grading	4/1/2017	5/5/2017	5	25	
4	Trenching	Trenching	5/1/2017	6/2/2017	5	25	
5	Building Construction	Building Construction	6/1/2017	1/10/2018	5	160	
6	Paving	Paving	7/1/2017	9/8/2017	5	50	
7	Architectural Coating	Architectural Coating	2/15/2018	4/25/2018	5	50	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 28.13

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 748,104; Non-Residential Outdoor: 249,368 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Rubber Tired Dozers	2	5.00	255	0.40
Site Preparation	Scrapers	1	5.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Excavators	1	5.00	162	0.38
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Scrapers	1	6.00	361	0.48
Grading	Sweepers/Scrubbers	1	6.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Rollers	1	6.00	80	0.38
Trenching	Skid Steer Loaders	1	6.00	64	0.37

Trenching	Sweepers/Scrubbers	2	6.00	64	0.46
Trenching	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	0	7.00	226	0.29
Building Construction	Forklifts	2	4.00	89	0.20
Building Construction	Generator Sets	0	2.00	84	0.74
Building Construction	Other Construction Equipment	2	6.00	171	0.42
Building Construction	Other General Industrial Equipment	2	6.00	87	0.34
Building Construction	Other Material Handling Equipment	1	6.00	167	0.40
Building Construction	Pumps	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	5.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Aerial Lifts	1	4.00	62	0.31
Architectural Coating	Air Compressors	1	5.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	1,978.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	6,250.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Trenching	6	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Building Construction	11	227.00	93.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	3,126.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	45.00	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

Use Soil Stabilizer

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					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1059	0.0832	1.0000e-004		6.2000e-003	6.2000e-003		5.8100e-003	5.8100e-003	0.0000	8.7329	8.7329	2.1500e-003	0.0000	8.7780
Total	**0.0108**	**0.1059**	**0.0832**	**1.0000e-004**	**0.2140**	**6.2000e-003**	**0.2202**	**0.0324**	**5.8100e-003**	**0.0382**	**0.0000**	**8.7329**	**8.7329**	**2.1500e-003**	**0.0000**	**8.7780**

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	8.7500e-003	0.0265	0.1525	4.0000e-005	4.4000e-004	1.3000e-004	5.7000e-004	1.2000e-004	1.2000e-004	2.4000e-004	0.0000	3.1747	3.1747	6.0000e-005	0.0000	3.1760
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	1.5000e-004	4.0000e-005	5.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0301	0.0301	0.0000	0.0000	0.0301

Total	**8.9000e-003**	**0.0266**	**0.1530**	**4.0000e-005**	**4.6000e-004**	**1.3000e-004**	**5.9000e-004**	**1.3000e-004**	**1.2000e-004**	**2.5000e-004**	**0.0000**	**3.2048**	**3.2048**	**6.0000e-005**	**0.0000**	**3.2061**

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					0.0963	0.0000	0.0963	7.2900e-003	0.0000	7.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	4.8100e-003	0.0563	1.0000e-004		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.7329	8.7329	2.1500e-003	0.0000	8.7780
Total	**1.1100e-003**	**4.8100e-003**	**0.0563**	**1.0000e-004**	**0.0963**	**1.5000e-004**	**0.0965**	**7.2900e-003**	**1.5000e-004**	**7.4400e-003**	**0.0000**	**8.7329**	**8.7329**	**2.1500e-003**	**0.0000**	**8.7780**

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	8.7500e-003	0.0265	0.1525	4.0000e-005	4.4000e-004	1.3000e-004	5.7000e-004	1.2000e-004	1.2000e-004	2.4000e-004	0.0000	3.1747	3.1747	6.0000e-005	0.0000	3.1760
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	1.5000e-004	4.0000e-005	5.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0301	0.0301	0.0000	0.0000	0.0301
Total	**8.9000e-003**	**0.0266**	**0.1530**	**4.0000e-005**	**4.6000e-004**	**1.3000e-004**	**5.9000e-004**	**1.3000e-004**	**1.2000e-004**	**2.5000e-004**	**0.0000**	**3.2048**	**3.2048**	**6.0000e-005**	**0.0000**	**3.2061**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0167	0.1875	0.1343	1.5000e-004		9.1100e-003	9.1100e-003		8.3800e-003	8.3800e-003	0.0000	13.9725	13.9725	4.2800e-003	0.0000	14.0624
Total	**0.0167**	**0.1875**	**0.1343**	**1.5000e-004**	**0.0491**	**9.1100e-003**	**0.0583**	**0.0253**	**8.3800e-003**	**0.0336**	**0.0000**	**13.9725**	**13.9725**	**4.2800e-003**	**0.0000**	**14.0624**

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	1.9000e-004	5.0000e-005	6.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0391	0.0391	0.0000	0.0000	0.0392
Total	**1.9000e-004**	**5.0000e-005**	**6.8000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0391**	**0.0391**	**0.0000**	**0.0000**	**0.0392**

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					0.0221	0.0000	0.0221	5.6800e-003	0.0000	5.6800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	7.9700e-003	0.0760	1.5000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	13.9725	13.9725	4.2800e-003	0.0000	14.0624
Total	**1.8400e-003**	**7.9700e-003**	**0.0760**	**1.5000e-004**	**0.0221**	**2.5000e-004**	**0.0224**	**5.6800e-003**	**2.5000e-004**	**5.9300e-003**	**0.0000**	**13.9725**	**13.9725**	**4.2800e-003**	**0.0000**	**14.0624**

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	1.9000e-004	5.0000e-005	6.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0391	0.0391	0.0000	0.0000	0.0392
Total	**1.9000e-004**	**5.0000e-005**	**6.8000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0391**	**0.0391**	**0.0000**	**0.0000**	**0.0392**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0742	0.0000	0.0742	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0416	0.4563	0.3029	3.8000e-004		0.0232	0.0232		0.0213	0.0213	0.0000	34.8710	34.8710	0.0107	0.0000	35.0954
Total	**0.0416**	**0.4563**	**0.3029**	**3.8000e-004**	**0.0742**	**0.0232**	**0.0974**	**0.0331**	**0.0213**	**0.0544**	**0.0000**	**34.8710**	**34.8710**	**0.0107**	**0.0000**	**35.0954**

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	0.0276	0.0838	0.4818	1.2000e-004	1.3800e-003	4.2000e-004	1.8000e-003	3.9000e-004	3.8000e-004	7.7000e-004	0.0000	10.0313	10.0313	1.9000e-004	0.0000	10.0353
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	1.2000e-004	1.6300e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0940	0.0940	1.0000e-005	0.0000	0.0942
Total	**0.0281**	**0.0839**	**0.4834**	**1.2000e-004**	**1.4500e-003**	**4.2000e-004**	**1.8700e-003**	**4.1000e-004**	**3.8000e-004**	**7.9000e-004**	**0.0000**	**10.1253**	**10.1253**	**2.0000e-004**	**0.0000**	**10.1294**

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					0.0334	0.0000	0.0334	7.4400e-003	0.0000	7.4400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8900e-003	0.0320	0.2151	3.8000e-004		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	34.8710	34.8710	0.0107	0.0000	35.0954
Total	**4.8900e-003**	**0.0320**	**0.2151**	**3.8000e-004**	**0.0334**	**6.1000e-004**	**0.0340**	**7.4400e-003**	**6.1000e-004**	**8.0500e-003**	**0.0000**	**34.8710**	**34.8710**	**0.0107**	**0.0000**	**35.0954**

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	0.0276	0.0838	0.4818	1.2000e-004	1.3800e-003	4.2000e-004	1.8000e-003	3.9000e-004	3.8000e-004	7.7000e-004	0.0000	10.0313	10.0313	1.9000e-004	0.0000	10.0353
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	1.2000e-004	1.6300e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0940	0.0940	1.0000e-005	0.0000	0.0942
Total	**0.0281**	**0.0839**	**0.4834**	**1.2000e-004**	**1.4500e-003**	**4.2000e-004**	**1.8700e-003**	**4.1000e-004**	**3.8000e-004**	**7.9000e-004**	**0.0000**	**10.1253**	**10.1253**	**2.0000e-004**	**0.0000**	**10.1294**

3.5 Trenching - 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	0.0169	0.1558	0.1156	1.5000e-004		0.0120	0.0120		0.0111	0.0111	0.0000	13.8844	13.8844	4.2500e-003	0.0000	13.9737
Total	**0.0169**	**0.1558**	**0.1156**	**1.5000e-004**		**0.0120**	**0.0120**		**0.0111**	**0.0111**	**0.0000**	**13.8844**	**13.8844**	**4.2500e-003**	**0.0000**	**13.9737**

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	1.2000e-004	1.6300e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0940	0.0940	1.0000e-005	0.0000	0.0942

Total	**4.6000e-004**	**1.2000e-004**	**1.6300e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0940**	**0.0940**	**1.0000e-005**	**0.0000**	**0.0942**

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	2.6500e-003	0.0418	0.1130	1.5000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	13.8844	13.8844	4.2500e-003	0.0000	13.9737
Total	**2.6500e-003**	**0.0418**	**0.1130**	**1.5000e-004**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**13.8844**	**13.8844**	**4.2500e-003**	**0.0000**	**13.9737**

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	1.2000e-004	1.6300e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0940	0.0940	1.0000e-005	0.0000	0.0942
Total	**4.6000e-004**	**1.2000e-004**	**1.6300e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0940**	**0.0940**	**1.0000e-005**	**0.0000**	**0.0942**

3.6 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	0.2773	2.5519	1.8496	2.7300e-003		0.1669	0.1669		0.1574	0.1574	0.0000	246.2141	246.2141	0.0565	0.0000	247.4011
Total	**0.2773**	**2.5519**	**1.8496**	**2.7300e-003**		**0.1669**	**0.1669**		**0.1574**	**0.1574**	**0.0000**	**246.2141**	**246.2141**	**0.0565**	**0.0000**	**247.4011**

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	0.0507	0.1715	0.7442	2.4000e-004	3.2900e-003	1.0200e-003	4.3100e-003	9.6000e-004	9.3000e-004	1.8900e-003	0.0000	20.4513	20.4513	3.0000e-004	0.0000	20.4575
Worker	0.0422	0.0112	0.1500	1.2000e-004	6.5000e-003	1.8000e-004	6.6800e-003	1.7500e-003	1.7000e-004	1.9200e-003	0.0000	8.6475	8.6475	7.6000e-004	0.0000	8.6634
Total	**0.0929**	**0.1826**	**0.8943**	**3.6000e-004**	**9.7900e-003**	**1.2000e-003**	**0.0110**	**2.7100e-003**	**1.1000e-003**	**3.8100e-003**	**0.0000**	**29.0988**	**29.0988**	**1.0600e-003**	**0.0000**	**29.1209**

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	0.0313	0.1356	1.9302	2.7300e-003		4.1700e-003	4.1700e-003		4.1700e-003	4.1700e-003	0.0000	246.2138	246.2138	0.0565	0.0000	247.4008
Total	**0.0313**	**0.1356**	**1.9302**	**2.7300e-003**		**4.1700e-003**	**4.1700e-003**		**4.1700e-003**	**4.1700e-003**	**0.0000**	**246.2138**	**246.2138**	**0.0565**	**0.0000**	**247.4008**

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	0.0507	0.1715	0.7442	2.4000e-004	3.2900e-003	1.0200e-003	4.3100e-003	9.6000e-004	9.3000e-004	1.8900e-003	0.0000	20.4513	20.4513	3.0000e-004	0.0000	20.4575
Worker	0.0422	0.0112	0.1500	1.2000e-004	6.5000e-003	1.8000e-004	6.6800e-003	1.7500e-003	1.7000e-004	1.9200e-003	0.0000	8.6475	8.6475	7.6000e-004	0.0000	8.6634
Total	**0.0929**	**0.1826**	**0.8943**	**3.6000e-004**	**9.7900e-003**	**1.2000e-003**	**0.0110**	**2.7100e-003**	**1.1000e-003**	**3.8100e-003**	**0.0000**	**29.0988**	**29.0988**	**1.0600e-003**	**0.0000**	**29.1209**

3.6 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	0.0125	0.1163	0.0953	1.4000e-004		7.3800e-003	7.3800e-003		6.9700e-003	6.9700e-003	0.0000	12.8225	12.8225	2.9300e-003	0.0000	12.8840
Total	**0.0125**	**0.1163**	**0.0953**	**1.4000e-004**		**7.3800e-003**	**7.3800e-003**		**6.9700e-003**	**6.9700e-003**	**0.0000**	**12.8225**	**12.8225**	**2.9300e-003**	**0.0000**	**12.8840**

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	2.3500e-003	8.4600e-003	0.0369	1.0000e-005	1.7000e-004	5.0000e-005	2.2000e-004	5.0000e-005	4.0000e-005	1.0000e-004	0.0000	1.0570	1.0570	2.0000e-005	0.0000	1.0573
Worker	2.0600e-003	5.3000e-004	7.1200e-003	1.0000e-005	3.4000e-004	1.0000e-005	3.5000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.4383	0.4383	4.0000e-005	0.0000	0.4390
Total	**4.4100e-003**	**8.9900e-003**	**0.0440**	**2.0000e-005**	**5.1000e-004**	**6.0000e-005**	**5.7000e-004**	**1.4000e-004**	**5.0000e-005**	**2.0000e-004**	**0.0000**	**1.4953**	**1.4953**	**6.0000e-005**	**0.0000**	**1.4963**

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	1.6500e-003	7.1400e-003	0.1016	1.4000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	12.8225	12.8225	2.9300e-003	0.0000	12.8840
Total	**1.6500e-003**	**7.1400e-003**	**0.1016**	**1.4000e-004**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**12.8225**	**12.8225**	**2.9300e-003**	**0.0000**	**12.8840**

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	2.3500e-003	8.4600e-003	0.0369	1.0000e-005	1.7000e-004	5.0000e-005	2.2000e-004	5.0000e-005	4.0000e-005	1.0000e-004	0.0000	1.0570	1.0570	2.0000e-005	0.0000	1.0573
Worker	2.0600e-003	5.3000e-004	7.1200e-003	1.0000e-005	3.4000e-004	1.0000e-005	3.5000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.4383	0.4383	4.0000e-005	0.0000	0.4390
Total	**4.4100e-003**	**8.9900e-003**	**0.0440**	**2.0000e-005**	**5.1000e-004**	**6.0000e-005**	**5.7000e-004**	**1.4000e-004**	**5.0000e-005**	**2.0000e-004**	**0.0000**	**1.4953**	**1.4953**	**6.0000e-005**	**0.0000**	**1.4963**

3.7 Paving - 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	0.0403	0.4194	0.3151	4.7000e-004		0.0243	0.0243		0.0224	0.0224	0.0000	43.5372	43.5372	0.0131	0.0000	43.8125
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0403**	**0.4194**	**0.3151**	**4.7000e-004**		**0.0243**	**0.0243**		**0.0224**	**0.0224**	**0.0000**	**43.5372**	**43.5372**	**0.0131**	**0.0000**	**43.8125**

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	0.0138	0.0419	0.2410	6.0000e-005	6.9000e-004	2.1000e-004	9.0000e-004	1.9000e-004	1.9000e-004	3.8000e-004	0.0000	5.0173	5.0173	9.0000e-005	0.0000	5.0192
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	9.2000e-004	2.4000e-004	3.2600e-003	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1880	0.1880	2.0000e-005	0.0000	0.1883

Total	**0.0147**	**0.0422**	**0.2442**	**6.0000e-005**	**8.3000e-004**	**2.1000e-004**	**1.0500e-003**	**2.3000e-004**	**1.9000e-004**	**4.2000e-004**	**0.0000**	**5.2052**	**5.2052**	**1.1000e-004**	**0.0000**	**5.2076**

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	7.0900e-003	0.0336	0.3542	4.7000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	43.5372	43.5372	0.0131	0.0000	43.8124
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0900e-003**	**0.0336**	**0.3542**	**4.7000e-004**		**1.1200e-003**	**1.1200e-003**		**1.1200e-003**	**1.1200e-003**	**0.0000**	**43.5372**	**43.5372**	**0.0131**	**0.0000**	**43.8124**

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	0.0138	0.0419	0.2410	6.0000e-005	6.9000e-004	2.1000e-004	9.0000e-004	1.9000e-004	1.9000e-004	3.8000e-004	0.0000	5.0173	5.0173	9.0000e-005	0.0000	5.0192
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	9.2000e-004	2.4000e-004	3.2600e-003	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1880	0.1880	2.0000e-005	0.0000	0.1883
Total	**0.0147**	**0.0422**	**0.2442**	**6.0000e-005**	**8.3000e-004**	**2.1000e-004**	**1.0500e-003**	**2.3000e-004**	**1.9000e-004**	**4.2000e-004**	**0.0000**	**5.2052**	**5.2052**	**1.1000e-004**	**0.0000**	**5.2076**

3.8 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	2.6006					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7400e-003	0.0505	0.0521	8.0000e-005		3.3800e-003	3.3800e-003		3.3600e-003	3.3600e-003	0.0000	7.2047	7.2047	1.0900e-003	0.0000	7.2276
Total	**2.6073**	**0.0505**	**0.0521**	**8.0000e-005**		**3.3800e-003**	**3.3800e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.2047**	**7.2047**	**1.0900e-003**	**0.0000**	**7.2276**

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	2.5500e-003	6.5000e-004	8.8200e-003	1.0000e-005	4.2000e-004	1.0000e-005	4.4000e-004	1.1000e-004	1.0000e-005	1.3000e-004	0.0000	0.5430	0.5430	4.0000e-005	0.0000	0.5439
Total	**2.5500e-003**	**6.5000e-004**	**8.8200e-003**	**1.0000e-005**	**4.2000e-004**	**1.0000e-005**	**4.4000e-004**	**1.1000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**0.5430**	**0.5430**	**4.0000e-005**	**0.0000**	**0.5439**

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	2.6006					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0143	0.0539	8.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	7.2047	7.2047	1.0900e-003	0.0000	7.2276
Total	**2.6017**	**0.0143**	**0.0539**	**8.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**7.2047**	**7.2047**	**1.0900e-003**	**0.0000**	**7.2276**

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	2.5500e-003	6.5000e-004	8.8200e-003	1.0000e-005	4.2000e-004	1.0000e-005	4.4000e-004	1.1000e-004	1.0000e-005	1.3000e-004	0.0000	0.5430	0.5430	4.0000e-005	0.0000	0.5439
Total	**2.5500e-003**	**6.5000e-004**	**8.8200e-003**	**1.0000e-005**	**4.2000e-004**	**1.0000e-005**	**4.4000e-004**	**1.1000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**0.5430**	**0.5430**	**4.0000e-005**	**0.0000**	**0.5439**

Topgolf - 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	709.00	Space	0.00	283,600.00	0
Parking Lot	635.00	Space	0.00	254,000.00	0
Golf Course	13.45	Acre	13.45	585,882.00	0
Hotel	200.00	Room	16.70	96,000.00	0
Racquet Club	71.22	1000sqft	0.00	71,225.00	0
Strip Mall	117.00	1000sqft	0.00	117,000.00	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

Land Use - From plan drawings and PD. 71,225sf structure for hitting bays entered as "Raquet Club"

Construction Phase - Anticipated phasing schedule provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Off-road Equipment - Proposed equipment list provided by applicant

Trips and VMT - Paving: 25,000cy asphalt @ 16cy/truck = 3,126 trips. 0.5mi trip lengths.

Demolition - 20,000 tons demo

Grading - 50,000cy import

Vehicle Trips - Retail pass-by included in rate, pass-by set to 0.

Energy Use - 2013 Title 24 standards 30% more energy-efficient than 2008 standards for no-res uses.

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	2.63	1.84
tblEnergyUse	LightingElect	2.72	1.90
tblEnergyUse	LightingElect	0.88	0.62
tblEnergyUse	LightingElect	3.52	2.46
tblEnergyUse	LightingElect	5.64	3.95
tblEnergyUse	T24E	3.92	2.74
tblEnergyUse	T24E	2.50	1.75
tblEnergyUse	T24E	1.81	1.27
tblEnergyUse	T24E	3.37	2.36
tblEnergyUse	T24NG	41.63	29.14
tblEnergyUse	T24NG	20.74	14.52
tblEnergyUse	T24NG	2.49	1.74
tblLandUse	LandUseSquareFeet	290,400.00	96,000.00
tblLandUse	LandUseSquareFeet	71,220.00	71,225.00
tblLandUse	LotAcreage	6.38	0.00
tblLandUse	LotAcreage	5.71	0.00
tblLandUse	LotAcreage	6.67	16.70
tblLandUse	LotAcreage	1.63	0.00
tblLandUse	LotAcreage	2.69	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblTripsAndVMT	HaulingTripNumber	0.00	6,250.00

tblTripsAndVMT	HaulingTripNumber	0.00	3,126.00
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	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	45.00	60.00
tblVehicleTrips	ST_TR	5.82	193.17
tblVehicleTrips	ST_TR	8.19	6.39
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	42.04	29.43
tblVehicleTrips	SU_TR	5.88	195.16
tblVehicleTrips	SU_TR	5.95	4.64
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	20.43	14.30
tblVehicleTrips	WD_TR	5.04	167.29
tblVehicleTrips	WD_TR	8.17	6.38
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	44.32	31.11

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	6.1049	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0312	0.0312	8.0000e-005	0.0000	0.0330
Energy	0.0268	0.2434	0.2045	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	1,356.1713	1,356.1713	0.0544	0.0151	1,361.9848
Mobile	3.2247	6.1998	29.2955	0.0678	4.8578	0.0857	4.9435	1.2987	0.0791	1.3778	0.0000	4,875.7617	4,875.7617	0.1875	0.0000	4,879.6996
Waste						0.0000	0.0000		0.0000	0.0000	132.1086	0.0000	132.1086	7.8074	0.0000	296.0638
Water						0.0000	0.0000		0.0000	0.0000	5.6954	53.1865	58.8819	0.5874	0.0143	75.6527
Total	**9.3563**	**6.4434**	**29.5162**	**0.0693**	**4.8578**	**0.1043**	**4.9621**	**1.2987**	**0.0976**	**1.3964**	**137.8039**	**6,285.1507**	**6,422.9546**	**8.6368**	**0.0294**	**6,613.4339**

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					
Unmitigated	3.2247	6.1998	29.2955	0.0678	4.8578	0.0857	4.9435	1.2987	0.0791	1.3778	0.0000	4,875.7617	4,875.7617	0.1875	0.0000	4,879.6996

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Golf Course	2,250.05	2,598.14	2624.90	4,253,121	4,253,121
Hotel	1,276.00	1,278.00	928.00	2,330,401	2,330,401
Parking Lot	0.00	0.00	0.00		
Racquet Club	0.00	0.00	0.00		
Strip Mall	3,639.87	3,443.31	1673.10	6,505,407	6,505,407
Total	7,165.92	7,319.45	5,226.00	13,088,929	13,088,929

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-[illegible]	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
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
Racquet Club	9.50	7.30	7.30	11.50	69.50	19.00	52	39	9
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	60	40	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551713	0.058594	0.185355	0.122900	0.029437	0.004435	0.012658	0.023465	0.001774	0.001269	0.006123	0.000509	0.001766

5.0 Energy Detail

4.4 Fleet Mix

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 Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,091.1518	1,091.1518	0.0493	0.0102	1,095.3524	
NaturalGas Unmitigated	0.0268	0.2434	0.2045	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	265.0195	265.0195	5.0800e-003	4.8600e-003	266.6324	

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					
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	3.25344e+006	0.0175	0.1595	0.1340	9.6000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	173.6160	173.6160	3.3300e-003	3.1800e-003	174.6726
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Racquet Club	1.50926e+006	8.1400e-003	0.0740	0.0622	4.4000e-004		5.6200e-003	5.6200e-003		5.6200e-003	5.6200e-003	0.0000	80.5397	80.5397	1.5400e-003	1.4800e-003	81.0299
Strip Mall	203580	1.1000e-003	9.9800e-003	8.3800e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	10.8638	10.8638	2.1000e-004	2.0000e-004	10.9299
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0268**	**0.2434**	**0.2045**	**1.4600e-003**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**265.0195**	**265.0195**	**5.0800e-003**	**4.8600e-003**	**266.6324**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.35277e+006	393.5369	0.0178	3.6800e-003	395.0519

Golf Course	0	0.0000	0.0000	0.0000	0.0000
Hotel	659520	191.8619	8.6800e-003	1.7900e-003	192.6005
Parking Lot	157480	45.8127	2.0700e-003	4.3000e-004	45.9891
Racquet Club	529202	153.9509	6.9600e-003	1.4400e-003	154.5435
Strip Mall	1.05183e+006	305.9894	0.0138	2.8600e-003	307.1674
Total		**1,091.1518**	**0.0493**	**0.0102**	**1,095.3524**

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					
Unmitigated	6.1049	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0312	0.0312	8.0000e-005	0.0000	0.0330

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	0.6056					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	5.4978					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5400e-003	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0312	0.0312	8.0000e-005	0.0000	0.0330
Total	**6.1049**	**1.5000e-004**	**0.0162**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0312**	**0.0312**	**8.0000e-005**	**0.0000**	**0.0330**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	58.8819	0.5874	0.0143	75.6527

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Golf Course	0 / 16.0254	16.3169	7.4000e-004	1.5000e-004	16.3797
Hotel	5.07335 / 0.563706	10.1696	0.1657	3.9800e-003	14.8842
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000

Racquet Club	4.21217 / 2.58166	10.5954	0.1377	3.3300e-003	14.5181
Strip Mall	8.66649 / 5.31172	21.7999	0.2833	6.8500e-003	29.8707
Total		**58.8819**	**0.5874**	**0.0143**	**75.6527**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	132.1086	7.8074	0.0000	296.0638

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Golf Course	12.51	2.5394	0.1501	0.0000	5.6910
Hotel	109.5	22.2275	1.3136	0.0000	49.8133

Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Racquet Club	405.95	82.4042	4.8700	0.0000	184.6731
Strip Mall	122.85	24.9374	1.4738	0.0000	55.8864
Total		**132.1086**	**7.8074**	**0.0000**	**296.0638**

9.0 Operational Offroad

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

10.0 Vegetation

Topgolf - Operational (Parking Structure ROG)

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	709.00	Space	30.15	283,600.00	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

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	6.38	30.15
tblProjectCharacteristics	OperationalYear	2014	2019
tblTripsAndVMT	HaulingTripNumber	0.00	6,250.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,126.00
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	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50

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	1.2561	6.0000e-005	6.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0127	0.0127	3.0000e-005	0.0000	0.0134
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	556.0668	556.0668	0.0251	5.2000e-003	558.2075
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2561**	**6.0000e-005**	**6.5800e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**556.0795**	**556.0795**	**0.0252**	**5.2000e-003**	**558.2209**

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					
Unmitigated	1.2561	6.0000e-005	6.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0127	0.0127	3.0000e-005	0.0000	0.0134

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	0.1479					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1076					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.2000e-004	6.0000e-005	6.5800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0127	0.0127	3.0000e-005	0.0000	0.0134
Total	**1.2561**	**6.0000e-005**	**6.5800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0127**	**0.0127**	**3.0000e-005**	**0.0000**	**0.0134**

Topgolf - Existing

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Golf Course	3.00	Hole	13.45	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2016
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

Land Use - 3 hole golf course

Vehicle Trips - from traffic report

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	20.94	13.45
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripNumber	0.00	6,250.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,126.00
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	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblTripsAndVMT	WorkerTripLength	12.40	0.50
tblVehicleTrips	ST_TR	40.63	83.33
tblVehicleTrips	SU_TR	39.53	83.33
tblVehicleTrips	WD_TR	35.74	83.33

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	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1460	0.2756	1.3225	2.3400e-003	0.1677	3.4300e-003	0.1711	0.0448	3.1500e-003	0.0480	0.0000	185.2057	185.2057	8.2600e-003	0.0000	185.3791
Waste						0.0000	0.0000		0.0000	0.0000	0.0812	0.0000	0.0812	4.8000e-003	0.0000	0.1820
Water						0.0000	0.0000		0.0000	0.0000	0.0000	25.4075	25.4075	1.1500e-003	2.4000e-004	25.5053
Total	**0.1460**	**0.2756**	**1.3225**	**2.3400e-003**	**0.1677**	**3.4300e-003**	**0.1711**	**0.0448**	**3.1500e-003**	**0.0480**	**0.0812**	**210.6132**	**210.6944**	**0.0142**	**2.4000e-004**	**211.0664**

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					
Unmitigated	0.1460	0.2756	1.3225	2.3400e-003	0.1677	3.4300e-003	0.1711	0.0448	3.1500e-003	0.0480	0.0000	185.2057	185.2057	8.2600e-003	0.0000	185.3791

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Golf Course	249.99	249.99	249.99	451,802	451,802
Total	249.99	249.99	249.99	451,802	451,802

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.552322	0.058092	0.185339	0.123855	0.029634	0.004459	0.012625	0.022329	0.001774	0.001272	0.006012	0.000525	0.001763

5.0 Energy Detail

4.4 Fleet Mix

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 Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Unmitigated	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total	**0.0000**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	25.4075	1.1500e-003	2.4000e-004	25.5053

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Golf Course	0 / 24.9536	25.4075	1.1500e-003	2.4000e-004	25.5053
Total		**25.4075**	**1.1500e-003**	**2.4000e-004**	**25.5053**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	0.0812	4.8000e-003	0.0000	0.1820

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Golf Course	0.4	0.0812	4.8000e-003	0.0000	0.1820
Total		**0.0812**	**4.8000e-003**	**0.0000**	**0.1820**

9.0 Operational Offroad

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

10.0 Vegetation

Topgolf, Alviso, CA

DPM Construction Emissions and Modeling Emission Rates - Unmitigated

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 ($g/s/m^2$)
2017	Area 1 - A	0.1174	A1A_DPM	234.7	0.07145	9.00E-03	31,667	2.84E-07
	Area 1 - B	0.1108	A1B_DPM	221.7	0.06748	8.50E-03	29,907	2.84E-07
		0.2282		456.4	0.13893	1.75E-02	61,574	
2017	Topgolf	0.2477	TG_DPM	495.4	0.15081	1.90E-02	32,229	5.90E-07
2018	Area 1 - A	0.0053	A1A_DPM	10.7	0.00326	4.10E-04	31,667	1.30E-08
	Area 1 - B	0.0051	A1B_DPM	10.1	0.00308	3.88E-04	29,907	1.30E-08
		0.0104		20.8	0.00633	7.98E-04	61,574	
2018	Topgolf	0.0814	TG_DPM	162.8	0.04956	6.24E-03	32,229	1.94E-07
Total	All	0.5677	-	1135	0.3456	0.0435	93,803	-
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

PM2.5 Fugitive Dust Construction Emissions for Modeling - Unmitigated

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 $g/s/m^2$
2017	Area 1 - A	A1A_FUG	0.04845	96.9	0.02950	3.72E-03	31,667	1.17E-07
	Area 1 - B	A1B_FUG	0.0458	91.5	0.02786	3.51E-03	29,907	1.17E-07
			0.0942	188.4	0.05735	7.23E-03	61,574	
2017	Topgolf	TG_FUG	0.1091	218.2	0.06642	8.37E-03	32,229	2.60E-07
2018	Area 1 - A	A1A_FUG	0.00013	0.3	0.00008	1.03E-05	31,667	3.24E-10
	Area 1 - B	A1B_FUG	0.0001	0.3	0.00008	9.69E-06	29,907	3.24E-10
			0.0003	0.5	0.00016	1.99E-05	61,574	
2018	Topgolf	TG_FUG	0.0028	5.6	0.00171	2.16E-04	32,229	6.69E-09
Total			0.2064	412.7	0.1256	0.0158	93,803	
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

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 ($g/s/m^2$)
2017	Area 1 - A	0.0043	A1A_DPM	8.6	0.00261	3.29E-04	31,667	1.04E-08
	Area 1 - B	0.0041	A1B_DPM	8.1	0.00247	3.11E-04	29,907	1.04E-08
		0.0084		16.7	0.00508	6.41E-04	61,574	
2017	Topgolf	0.0212	TG_DPM	42.4	0.01291	1.63E-03	32,229	5.05E-08
2018	Area 1 - A	0.0002	A1A_DPM	0.4	0.00013	1.58E-05	31,667	4.98E-10
	Area 1 - B	0.0002	A1B_DPM	0.4	0.00012	1.49E-05	29,907	4.98E-10
		0.0004		0.8	0.00024	3.07E-05	61,574	
2018	Topgolf	0.0090	TG_DPM	18.0	0.00547	6.89E-04	32,229	2.14E-08
Total	All	0.0389	-	78	0.0237	0.0030	93,803	-
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

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 $g/s/m^2$
2017	Area 1 - A	A1A_FUG	0.01229	24.6	0.00748	9.43E-04	31,667	2.98E-08
	Area 1 - B	A1B_FUG	0.0116	23.2	0.00707	8.91E-04	29,907	2.98E-08
			0.0239	47.8	0.01455	1.83E-03	61,574	
2017	Topgolf	TG_FUG	0.0288	57.6	0.01753	2.21E-03	32,229	6.86E-08
2018	Area 1 - A	A1A_FUG	0.00013	0.3	0.00008	1.03E-05	31,667	3.24E-10
	Area 1 - B	A1B_FUG	0.0001	0.3	0.00008	9.69E-06	29,907	3.24E-10
			0.0003	0.5	0.00016	1.99E-05	61,574	
2018	Topgolf	TG_FUG	0.0028	5.6	0.00171	2.16E-04	32,229	6.69E-09
Total			0.0558	111.5	0.0340	0.0043	93,803	
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

Topgolf, Alviso, CA - Health Impacts Summary

Construction Health Impact Summary - Residential Receptors Without Mitigation

Construction Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	Adult	(-)	($\mu g/m^3$)
2017	0.2426	0.1385	39.8	0.7	0.049	0.381
2018	0.0492	0.0020	8.07	0.1	0.010	0.051
Total	-	-	**47.9**	**0.8**	-	-
Maximum Annual	0.2426	0.1385	-	-	**0.05**	**0.38**

Construction Health Impact Summary - Residential Receptors With Mitigation

Construction Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	Adult	(-)	($\mu g/m^3$)
2017	0.0155	0.0359	2.5	0.04	0.003	0.051
2018	0.0051	0.0020	0.8	0.01	0.001	0.007
Total	-	-	**3.4**	**0.06**	-	-
Maximum Annual	0.0155	0.0359	-	-	**0.003**	**0.05**

Maximum Impacts at George Mayne Elementary School - Without Mitigation

Construction Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Child	Adult	(-)	($\mu g/m^3$)
2017	0.0948	0.0581	2.5	-	0.019	0.153
2018	0.0135	0.0006	0.3	-	0.003	0.014
Total	-	-	**2.8**	-	-	-
Maximum Annual	0.0948	0.0581			**0.019**	**0.15**

Topgolf, Alviso, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters receptor height

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 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	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					
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-		-	-	-	-	-
1	1	0 - 1	2017	0.2426	10	39.85	2017	0.24260	1	0.70	0.1385	0.381
2	1	1 - 2	2018	0.0492	10	8.07	2018	0.04915	1	0.14	0.0020	0.051
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						**47.9**				**0.8**		

* Third trimester of pregnancy

Topgolf, Alviso, CA - Construction Impacts - Mitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meter Receptor Height

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 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	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					
			DPM Conc (ug/m3)				Modeled DPM Conc (ug/m3)					
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**Year**	**Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-		-	-	-	-	-
1	1	0 - 1	2017	0.0155	10	2.54	2017	0.0155	1	0.04	0.0359	0.051
2	1	1 - 2	2018	0.0051	10	0.83	2018	0.0051	1	0.01	0.0020	0.007
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						**3.4**				**0.06**		

* Third trimester of pregnancy

Topgolf, Alviso, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
George Mayne Elementary School Receptors - 1.0 meters - Child Exposures

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 $(\mu g/m^3)$
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Values

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

Exposure Year	Exposure Duration (years)	Student - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Student Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
1	1	2017	0.0948	3	2.45	0.0581	0.153
2	1	2018	0.0135	3	0.35	0.0006	0.014
Total Increased Cancer Risk					**2.8**		

* Students assumed to be less than 16 years of age