CHURCH OF THE VALLEY MEMORY CARE AND EDUCTION FACILITIES AIR QUALITY ASSESSMENT

San Ramon, California

October 8, 2018

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Project: 18-018

Introduction

The purpose of this report is to address air quality impacts and compute greenhouse gas (GHG) emissions associated with a new memory care facility and two-story school for preschool through 8th grade located at 19001 San Ramon Valley Blvd. The air quality impacts and GHG emissions would be associated with the construction of the new building and infrastructure, and operation of the project. Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using models. In addition, the potential construction health risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed residences were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Project Description

The project proposes to subdivide a 5.45-acre site to construct a memory care facility on 1.53 acres and a school on the other 3.92 acres. The project site is currently developed with a church and small private school that enrolls 40 students (permitted to enroll 80 students). The memory care facility would include 54 beds in 22,991-square foot (sf) building. The school would include K-8 classes with 135 students and preschool that could accommodate up to 60 children in a two-story 11,650-sf building. The new school would replace the existing school, and the existing administrative building would be retained. The church would remain but is unused when school would be in session. The project would upgrade the existing parking facilities and construct an additional 61 parking stalls to serve the school and memory care facility.

Setting

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

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels

aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

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

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. 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 project would introduce new sensitive receptors in the form of adult seniors and elementary-age school students. In addition, the closest sensitive receptors to the project site are residences of a condominium apartment complex adjacent to the northern project site boundary and single-family homes in the surrounding area

Regulatory Agencies

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

[1] 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.

recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[2]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[3] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel

[2] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

[3] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.
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. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[4] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions.

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

City of San Ramon General Plan 2035

Adopted April 28, 2015, the *San Ramon 2035 General Plan* includes goals, policies, and actions to improve air quality issues facing the City of San Ramon and to reduce the exposure of the City's population to air pollution.[5] The following goals, policies, and actions are applicable to the proposed project:

Guiding Policies- Regional Coordination

12.4-G-1 Improve and protect San Ramon's air quality and promote improvements in sub-regional air quality

Implementing Policies

12.4-I-3 Analyze the air quality and climate change impacts of discretionary projects using applicable regulatory guidance; for example, the BAAQMD's CEQA Air Quality Guidelines.

Guiding Policies – Hazardous Emissions and Public Health

12.6-G-1 Minimize exposure of the public to hazardous air pollutant emissions, particulates, and noxious odors from freeways, major arterial roadways, commercial and industrial uses with substantial truck trips, and other uses that produce toxic emissions through the use and handling of fuels and solvents.

Implementing Policies

12.6-I-1 Locate sources of hazardous emissions at appropriate distances from existing and planned sensitive land uses in order to minimize or avoid potential health risks to people that might result from hazardous air pollutant emissions. Locate residential development projects and projects categorized as sensitive receptors at adequate distances from existing and potential sources of hazardous emissions.

12.6-I-3 Require construction and grading activities to incorporate particulate emissions reduction measures.

Guiding Policies- Climate Change

12.9-G-1 Reduce the City's proportionate contribution of greenhouse gas emissions and the potential impact that may result in climate change from internal governmental operations and land use activities within its authority.

[5] City of San Ramon, California (2015). "Chapter 12 Air Quality and Greenhouse Gas". *City of San Ramon General Plan 2035*. http://www.ci.san-ramon.ca.us/UserFiles/Servers/Server_10826046/File/Our%20City/Departments/Community%20Development/Planning/General%20Plan/General%20Plan%202035%202017-07-01/12%20Air%20Quality.pdf

Implementing Policies

12.9-I-5 Utilize tiered significance thresholds, as available, for the evaluation of project greenhouse gas emissions impacts, the preparation of project level greenhouse gas emission inventories, and the identification and application of mitigation.

City of San Ramon Climate Actin Plan

The San Ramon Climate Action Plan (CAP) was adopted by the City on August 23, 2011 and it is the City's primary implementation strategy for greenhouse gas policies[6]. The CAP has been defined by BAAQMD as a "Qualified Greenhouse Gas Reduction Strategy." As a qualified document, the San Ramon CAP meets the BAAQMD Greenhouse Gas (GHG) Reduction Strategies requirements and has identified implementation strategies that will help the city GHG reduction goals up to 2020. As such, it serves as a guidance document for local decision makers.

The CAP strategy is primarily based upon the land use, transportation, and conservation policies that are part of the General Plan 2035. The CAP demonstrates reductions in GHG emissions through land use planning (including density choices), reduction in vehicle miles traveled, and energy conservation measures such as increased energy efficiency for buildings, more efficient water use and recycling programs.

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. 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). 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). 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 CEQA Air Quality Guidelines are applied to this project. The City's 2035 General Plan includes a policy to reduce exposure of new sensitive receptors to hazardous pollutants (Guiding Policy 12.6-G-1). Therefore, the effect of existing air pollutant and TAC sources upon the project site was assessed.

[6] City of San Ramon, California (2011). *City of San Ramon Climate Action Plan.* http://www.ci.san-ramon.ca.us/UserFiles/Servers/Server_10826046/File/Our%20City/Departments/Community%20Development/Planning/General%20Plan/Climate%20Action%20Plan/adoptedcap.pdf

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.			

Air Quality Impacts and Mitigation Measures

Impact 1: 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)?

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 NO_X), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate 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. The model output from CalEEMod is included as *Attachment 2*.

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 based on information provided by the project applicant. The proposed project land uses were input into CalEEMod, which included: 54 dwelling units and 22,991-sf entered as "Congregate Care (Assisted Living)," 195 students and 11,650-sf entered as "Elementary School", and 61 spaces entered as "Parking Lot."

Inputs to the model for this scenario included:

- 277 tons of paving demolition was estimated for the school expansion
- 151 round-trip cement truck deliveries during building construction and
- 20 round-trip asphalt truck deliveries during paving.

Specific construction activity required to build the project is not known at this time, so CalEEMod defaults were used that are based on the size and type of land uses. Construction was assumed to begin January 2019 and last 12 months. Based on the CalEEMod default construction schedule and equipment usage, there was an estimated 269 construction workdays. 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 the construction period emissions would not exceed the BAAQMD significance thresholds.

Table 2. Construction Period Emissions

Scenario	**ROG**	**NOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Total construction emissions (tons)	0.54 tons	2.2 tons	0.12 tons	0.12 tons
Average daily emissions (pounds)[1]	4.0 lbs./day	16.4 lbs./day	0.9 lbs./day	0.9 lbs./day
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	**No**	**No**	**No**	**No**

Notes: [1]Assumes 269 workdays.

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*. In addition, measures to reduce particulate matter exhaust are included in the mitigation measure to address significant health risk impacts described later under Impact 3.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from traffic associated with the land uses that include future memory care residents or their providers, student drop off and pickup, 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 estimate emissions from operation of the proposed project assuming full build-out.

Land Uses

The project land uses were input to CalEEMod as described above for the construction period modeling.

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 the project could possibly be constructed and begin operating would be 2021. Emissions associated with build-out later than 2021 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 trip generation table. The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips. The traffic analysis provided project trip generation values for the memory care facility and elementary school. The weekday trip rate used for the memory care was 3.06, which changed the Saturday trip rate to 2.46 and the Sunday trip rate to 2.72. The trip rate used for the school was 4.1 with no weekend trips.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The rate was adjusted to account for PG&E's projected 2020 CO_2 intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. The derived 2020 rate for PG&E was estimated at 290 pounds of CO_2 per megawatt of electricity delivered.[7]

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions.

Existing Uses

A CalEEMod model run was developed to computed emissions from use of the existing building as if it was operating in 2021. The input for this modeling scenario included 40 students entered as "Elementary School." This input was applied to the modeling in the same manner described for the proposed project.

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2021 Project Operational Emissions (*tons/year*)	0.37 tons	0.91 tons	0.62 tons	0.17 tons
2021 Existing Use Emissions (*tons/year*)	0.10 tons	0.15 tons	0.10 tons	0.03 tons
Net Annual Emissions (*tons/year*)	0.26 tons	0.76 tons	0.52 tons	0.14 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	No	No	No	No
2021 Project Operational Emissions (*lbs/day*)	2.0 lbs.	5.0 lbs.	3.4 lbs.	0.9 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

[7] Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

Mitigation Measure AQ-1: **Include 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. Additional measures are identified to reduce construction equipment exhaust emissions. 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.

In addition to the BAAQMD-recommended best management practices listed above, Mitigation Measure AQ-1 would require that the project develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 75 percent reduction in particulate matter exhaust emissions or more. The purpose of this mitigation measure is to reduce exhaust TAC/particulate matter emissions from diesel exhaust. One feasible plan to achieve this reduction would include the following:

- All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 3 engines that include CARB-certified Level 3 Diesel Particulate Filters[8] or equivalent. Alternatively, the use of equipment that includes alternatively-fueled equipment (i.e., non-diesel) would meet this requirement.

Effectiveness of Mitigation Measure AQ-1

Implementation of Mitigation Measure AQ-1 is considered to reduce fugitive dust emissions by over 67 percent and reduce on-site diesel exhaust emissions by 91 percent.

Impact 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As discussed under Impact 1, the project would have emissions less than the BAAQMD thresholds. Therefore, the project would not contribute substantially to existing or projected violations of those standards. Carbon monoxide emissions from traffic generated by the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Air pollutant monitoring data indicate that carbon monoxide levels have been at healthy levels (i.e., below State and federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard. The highest measured level over any 8-hour averaging period during the last 3 years in the Bay Area is less than 3.0 parts per million (ppm), compared to the ambient air quality standard of 9.0 ppm. Intersections affected by the project would have traffic volumes less than the BAAQMD screening criteria and, thus, would not cause a violation of an ambient air quality standard or have a considerable contribution to cumulative violations of these standards.[9] The project would not cause the violation of an air quality standard or worsen an existing violation of an air quality standard. This would be a *less-than-significant* impact.

Impact 3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. The project would introduce new residents that are sensitive receptors. In addition, temporary project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations and computing the Hazard Index (HI) for non-cancer health risks. The methodology for computing community risks impacts is contained in *Attachment 1*.

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

[9] For a land-use project type, the BAAQMD CEQA Air Quality Guidelines state that a proposed project would result in a less-than-significant impact to localized carbon monoxide concentrations if the project would not increase traffic at affected intersections with more than 44,000 vehicles per hour.

Since the proposed project would introduce both permanent sensitive receptors (adult seniors) and part-time sensitive receptors (daycare and elementary-age students), a cancer screening risk assessment was done for each group of sensitive receptors to adjust for annual, life, and lifetime exposure. For adult seniors living in the memory care facility, the cancer risk assessment assumed that the sensitive receptors would experience continuous exposure to TAC sources. However, the infants and children attending the daycare and school would only be exposed while on campus.

BAAQMD screening tools provide lifetime cancer risk, so they were adjusted for each sensitive receptor group as follows (refer to Attachment 1 for description of cancer risk calculations):

For the adult senior cancer risk, the screening level lifetime cancer risk was adjusted as follows:

1. Age sensitivity. BAAQMD screening data uses a factor of 1.7 for lifetime exposure. This was adjusted to a factor of 1.0 for adult exposures.

2. Daily exposure. Health risk assessments assume 24-hour per day exposure. This assumption was not changed because the adult seniors would be full-time residences at the memory care facility.

3. Annual exposure. Health risk assessments assume 350 days of exposure per year. This assumption was not changed because the adult seniors would reside in the memory care facility year-round.

4. Lifetime exposure. Health risk assessments assume a 70-year exposure. The adult seniors were assumed to reside in the memory care facility for a maximum of 30 years.

5. Breathing rates. BAAQMD predictions were assumed to use an overall breathing rate of 302 liters per kilogram body weight. New exposure parameters issued by the California Office of Environmental Health Hazards Assessment (OEHHA) include parameters that account for different breathing rates. A breathing rate of 261 liters per kilogram (L/kg) was assumed for adult senior exposures.

For the preschool and elementary-age student cancer risk, the screening level lifetime cancer risk were adjusted as follows:

1. Age sensitivity. BAAQMD screening data uses a factor of 1.7 for lifetime exposure. This was adjusted to a factor of 10.0 for infant exposures and 3.0 for child exposures. This assumes that the daycare use would accommodate infants and small children and then those children would attend the school from kindergarten through 8th grade.

2. Daily exposure. Health risk assessments assume 24-hour per day exposure. Daycare children and students would only be present for 10 hours per day.

3. Annual exposure. Health risk assessments assume 350 days of exposure per year. For infants and pre-school children, there would be 250 days, assuming, the infants and

preschool children would attend the daycare year-round. Students would attend the school for 180 days.

4. Lifetime exposure. Health risk assessments assume a 70-year exposure. The infants would attend the daycare for 1.5 years (age 6 months to 2 years). The pre-school children would attend the school for 2 years. The elementary and middle school children would attend the school for up to 10 years.

5. Breathing rates. BAAQMD predictions were assumed to use an overall breathing rate of 302 liters per kilogram body weight. New exposure parameters issued by the California's OEHHA include parameters that account for different breathing rates. For infants, a breathing rate of 1,090 liters per kilogram (L/kg) was assumed. For preschool, elementary, and middle school students, a breathing rate of 631 L/kg was assumed.

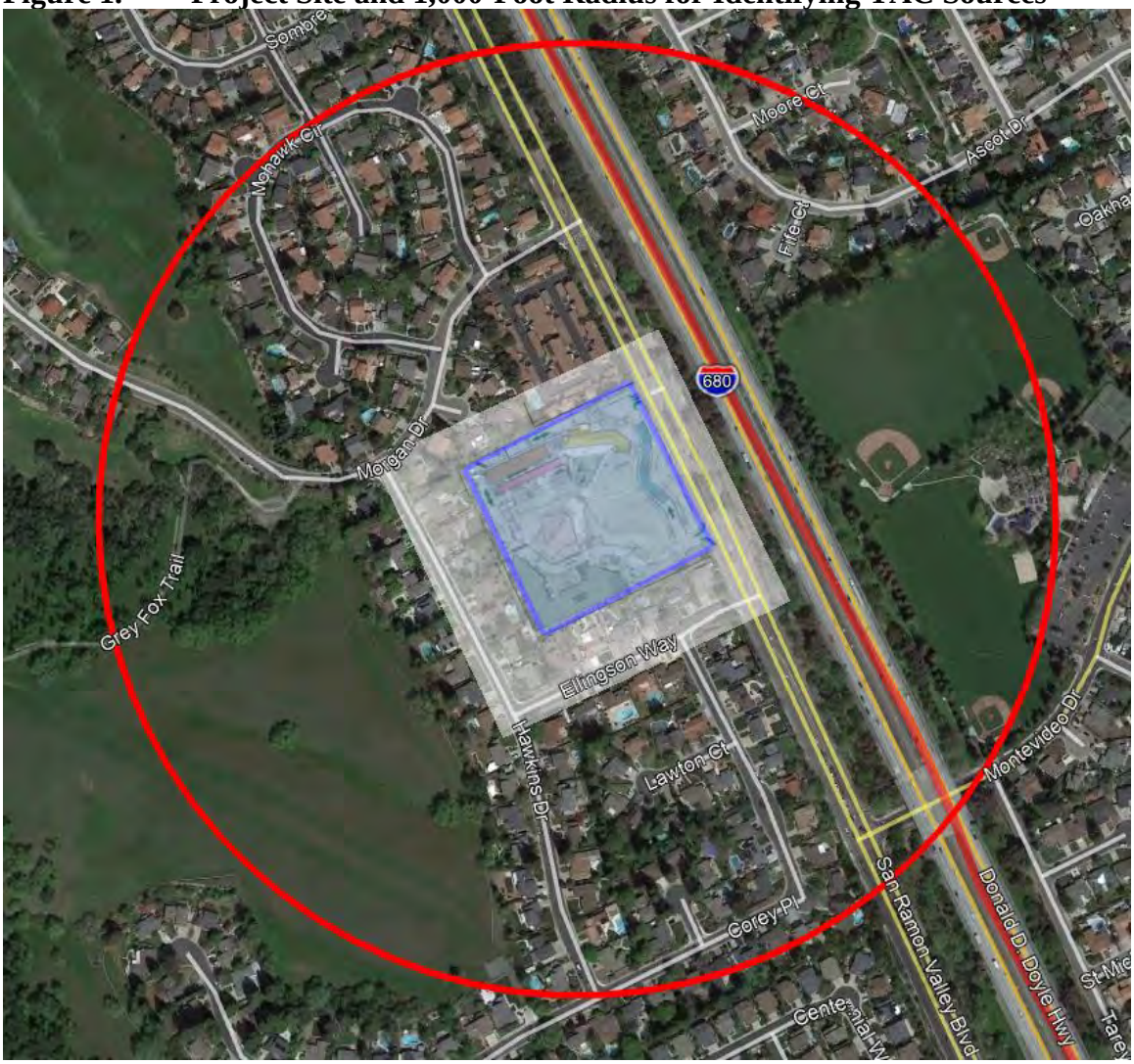
No adjustments were made to the predicted annual $PM_{2.5}$ and Hazard Index, since those screening levels below the significance thresholds and would not result in any significant health effects at the memory care or the school, even if one were to assume continuous exposure.

Operational Community Risk Impacts

Community health risk assessments typically look at all substantial sources of TACs located within 1,000 feet of project sites. These sources include highways, busy surface streets and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on U.S. Highway 680 and San Ramon Valley Boulevard are busy roadways that are considered sources of TACs. Other nearby streets are assumed to have less than 10,000 vehicles per day. No stationary sources were identified using the BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*.

Figure 1 shows the project site and the sources of TACs near the site. Results of this assessment are shown in Table 4. The method to determine community risks from each source is described below. See *Attachment 3* for the screening community risk calculations from sources affecting the project and MEI.

Figure 1. Project Site and 1,000-Foot Radius for Identifying TAC Sources



Highways

BAAQMD provides a Google Earth *Highway Screening Analysis Tool* that can be used to identify screening level impacts from State highways. The portion of the highway closest to the project was selected (i.e., Link 9, 6ft elevation). The lifetime cancer risk, annual $PM_{2.5}$ exposure and non-cancer hazard index corresponding to the distance between the project and the site was used. The data were based on a distance of 400 feet west from the highway (note that the location of the building ranges from about 400 to 500 feet from the highway). Cancer risk levels were adjusted for exposure duration, age, and new exposure guidance provided by OEHHA, as described above.

Local Roadways

BAAQMD provides *Roadway Screening Analysis Calculator* that is used to assess potential excess cancer risk and annual $PM_{2.5}$ concentrations from surface streets for each Bay Area county. The calculator requires the entries of: (1) County, (2) roadway orientation (north-south

or east-west), (3) side of the roadway receptors is located, (4) distance between receptor and nearest through travel lane, and (5) average daily traffic volume. This north-south roadway is approximately 270 feet west of the school memory care and 300 feet west of the school. Cancer risk levels were adjusted for exposure duration, age, and new exposure guidance provided by OEHHA, as described above. Note that BAAQMD has found that non-cancer hazards from all local roadways would be well below the BAAQMD thresholds. Chronic or acute HI for the roadway would be below 0.03.

Table 4. Community Risk Impact to New Project Residences

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
I-680 (Link 9, 6ft, at ~400 feet west) Link 9 (6ft elevation)	Children Infants Preschool Child Elementary Students Total infant/child	 5.0 1.1 4.1 **10.2**	0.27	<0.01
	Adult Seniors	7.9	0.27	<0.01
San Ramon Valley Blvd (north-south) at 300 feet, 18,480 ADT	Children Infants Preschool Child Elementary Students Total infant/child	 0.2 0.1 0.2 0.5	0.06	<0.03
San Ramon Valley Blvd (north-south) at 270 feet, 18,480 ADT	Adult Seniors	0.4	0.05	<0.03
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>0.1***
Significant?		***Yes (children)***	***No***	***No***
Cumulative Total	Children Infants Preschool Child Elementary Students	10.7	0.33	<0.04
	Adult Seniors	8.3	0.32	<0.04
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Significant?		***No***	***No***	***No***

Conclusion for Operational Impacts

The combination of all TAC sources would not exceed the significance thresholds for cancer risk, $PM_{2.5}$ concentrations or non-cancer Hazard Index. However, the screening cancer risk caused by I-680 is above the single-source threshold of 10.0 per million for cancer risk for daycare and school children exposures. This would have a *significant* impact with respect to children. Annual $PM_{2.5}$ and the HI would be below the significance threshold. *Implementation of the following mitigation conditions would reduce this impact to a level of less-than-significant:*

Recommended Mitigation: **Include high efficiency filtration in school and daycare ventilation systems.**

Portions of the school would have exposures to TACs from freeway traffic that cause cancer risk to exceed BAAQMD's recommended threshold for placing sensitive receptors near sources of TACs. To reduce this effect, such that cancer risk is below the thresholds, it is recommended that

the ventilation systems incorporate high-efficiency filtration to reduce TAC exposure for daycare and school children.

1. The project applicant should install air filtration in the school and daycare building to reduce cancer risks and particulate matter exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated MERV-13 or higher. To ensure adequate health protection to sensitive receptors (i.e., school children) with this ventilation system, whether mechanical or passive, all fresh air circulated into the educational facility shall be filtered.

2. As part of implementing this measure, an ongoing maintenance plan for the buildings HVAC air filtration system shall be required.

Effectiveness: A properly installed and operated ventilation system with MERV13 filters should achieve reductions of 80 percent. Increased cancer risk exposures for MERV13 filtration was calculated assuming a combination of outdoor and indoor exposure. For use of MERV13 filtration systems, without the additional use of sealed, inoperable widows and no balconies, two to three hours of outdoor exposure to ambient TAC concentrations and 7 to 8 hours of indoor exposure to filtered air was assumed. In this case, the effective control efficiency using a MERV13 filtration system is about 60 percent for $PM_{2.5}$ exposure. This would reduce the maximum cancer risk for preschool children/students to 6 chances per one million.

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $PM_{2.5}$.[10] The closest sensitive receptors to the project site are residences of a condominium apartment complex adjacent to the northern project site boundary and single-family homes in the surrounding area (see Figure 2). Emissions and dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Period Emissions

The CalEEMod model provided total uncontrolled annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.1208 tons (242 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle

[10] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.0124 tons (25 pounds) for the overall construction period.

Dispersion Modeling

The EPA ISCST3 dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at existing sensitive receptors (residences) 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.[11] The ISCST3 modeling utilized four area sources to represent the on-site construction emissions, two for exhaust emissions and two 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. Figure 2 shows the project site and nearby sensitive receptor (residences) locations where health impacts were evaluated.

The modeling used a five-year data set (2001-2005) of hourly meteorological data set for Pleasanton prepared for use with the ISCST3 model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2019 - 2020 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 1.5 meters (4.9 feet) and 4.5 meters (14.8 feet) were used to represent the breathing heights of residents on first and second floor levels of nearby residences, apartments, and condominiums.

The maximum-modeled DPM and $PM_{2.5}$ concentrations occurred north of the construction site at a second-floor residential unit of the adjacent condominium apartment complex. Note that the onsite preschool sensitive receptors (preschool students) were also modeled to find the maximum DPM and $PM_{2.5}$ impacts at the onsite preschool. Unlike the second-floor residential unit, the onsite preschool would include small children and adults who would be only exposed to the construction period for part of the day. The second-floor residential unit is assumed to residential receptors that would include infants, small children and adults who would be exposed to construction emissions for the entire construction period. The residential unit also captures the maximum modeled DPM $PM_{2.5}$ concentrations. Therefore, the residential unit was considered the construction MEI instead of the preschool.

The location where the maximum $PM_{2.5}$ and DPM concentrations occurred (and maximum cancer risk) is identified on Figure 2. The location of the onsite preschool receptors is identified in Figure 3. Results of this assessment are presented in Table 5. The maximum cancer risk, $PM_{2.5}$

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

concentration and non-cancerous hazard index results at the onsite preschool are also listed in Table 5 for reference.

Figure 2. Project Construction Site and Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts

Figure 3. Project Construction Site and Location of Onsite Preschool Receptors

Predicted Construction Period Impacts

Increased cancer risks were calculated using the maximum modeled concentrations for the 2019-2020 period and BAAQMD recommended risk assessment methods for an infant exposure (3rd trimester through two years of age) and for an adult exposure. The cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Infant and adult exposures were assumed to occur at all residences through the entire construction period. *Attachment 4* includes the emission calculations and source information used in the modeling and the cancer risk calculations.

Results of the assessment for project construction indicate the maximum incremental residential infant cancer risk at the maximally exposed individual (MEI) receptor would be 39.5 in one million and the residential adult incremental cancer risk would be 0.7 in one million. The infant cancer risk would exceed the BAAQMD significance threshold of 10 in one million. At the onsite preschool the small child cancer risk would be 8.2 in one million, which would not exceed the cancer risk significance threshold.

The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions, was 0.27 μg/m^3 for the residential unit. This maximum annual $PM_{2.5}$ concentration would not exceed the BAAQMD significance threshold of 0.3 μg/m^3. The location of the receptor with the maximum $PM_{2.5}$ concentration is the same as that with maximum cancer risk and is shown in Figure 2. However, the maximum-modeled annual $PM_{2.5}$ concentration at the onsite preschool was 0.37 ug/m^3. This maximum annual $PM_{2.5}$ concentration would exceed the BAAQMD $PM_{2.5}$ significance threshold. However, with mitigation the concentration would be 0.05 ug/m^3, which would not exceed the significance threshold of 0.3 ug/m^3.

The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.2402 μg/m^3, which is much lower than the REL. The maximum computed hazard index (HI) based on this DPM concentration is 0.05 at the residential unit. At the onsite preschool the DPM concentration is 0.06. Both values are lower than the BAAQMD significance criterion of a HI greater than 1.0.

Table 5. Impacts from Combined Sources at Construction MEI

Source	Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration (μg/m^3)	Hazard Index
Project Construction Unmitigated	**40.0 (infant)** 8.2 (preschool)	0.27 (infant) **0.37 (preschool)**	0.05 (infant) 0.06 (preschool)
Mitigated	4.0 (infant) 0.7 (preschool)	0.03 (infant) 0.05 (preschool)	0.03 (infant) <0.01 (preschool)
BAAQMD Threshold – Single Sources	***>10.0***	***>0.3***	***>1.0***
Significant for Single Sources?	***Unmitigated*** *(infant/preschool) =* ***YES****/No* ***Mitigated*** *(infant/preschool) = No/No*	***Unmitigated*** *(infant/preschool) = No/****YES*** ***Mitigated*** *(infant/preschool) = No/No*	***Unmitigated*** *(infant/preschool) = No/No* ***Mitigated*** *(infant/preschool) = No/No*
I-680 (Link 9, 6ft, at 400 feet west for MEI & 300-ft for preschool) -Link 9 (6ft elevation)	50.0 1.4 (preschool)	0.27 0.32 (preschool)	0.03 0.04 (preschool)
San Ramon Valley Blvd (north-south) at 240 feet for MEI & 95-ft for preschool, 18,480 ADT	1.6 0.1 (preschool)	0.06 0.11 (preschool)	<0.03 <0.03 (preschool)
Combined Sources Unmitigated	91.6 (infant) 10.4 (preschool)	0.6 (infant) 0.8 (preschool)	<0.11 (infant) <0.13 (preschool)
Mitigated	59.8 (infant) 2.2 (preschool)	0.03 (infant) 0.48 (preschool)	0.09 (infant) <0.08 (preschool)
BAAQMD Threshold – Combined Sources	***>100***	***>0.8***	***>10.0***
Significant for Combined Sources?	***No*** ***No (preschool)***	***No*** ***No (preschool)***	***No*** ***No (preschool)***

Conclusion for Construction Impacts

As shown in Table 5, the sum of impacts from combined sources at the construction MEI would be *less-than-significant* with mitigation measures applied.

Mitigation Measure: See Mitigation Measure 1 described above.

Effectiveness of Mitigation Measure 1

Implementation of Mitigation Measure AQ-1 is considered to reduce fugitive dust emissions by over 67 percent and reduce on-site diesel exhaust emissions by 91 percent. With mitigation, the computed maximum increased lifetime residential cancer risk from construction, assuming infant exposure, would be 3.6 in one million or less. The cancer risk would be below the BAAQMD threshold of 10 in one million for cancer risk. *After implementation of these recommended measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities.*

Greenhouse Gas Emissions

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical

reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions

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

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG

reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings (note that new
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit oriented housing;
- Develop walkable and bikable communities
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

<u>BAAQMD Significance Thresholds</u>

The BAAQMD's CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan). The plan has to address emissions associated with the period that the project would operate (e.g., beyond year 2020). For quantified emissions, the guidelines recommended a GHG bright-line threshold of 1,100 metric tons or a per capita threshold of 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population. This is calculated for 2030 based on the GHG reduction goals of EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[12]

[12] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

Impact 4: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above. CalEEMod output is included in *Attachment 2*.

The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. PG&E published 2015 emissions rates for 2009 through 2015, which showed the emission rate for delivered electricity had been reduced to 405 pounds CO_2 per megawatt of electricity delivered.[13] The projected GHG intensity factor for the year 2020 is 290 pounds of CO_2 per megawatt of electricity produced, which was input to the model.[14]

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. The applicant provided the number of future residences and employees for the project site, which included 54 residences, 195 students, 29 memory care employees, and 17 school staff members. The total future service population, including students would be 295. Note that BAAQMD does not typically include students in the service population. However, the lead agency may choose to include students in the service population. This analysis uses the preschool/student population to compute service population.

Construction Emissions

GHG emissions associated with construction were computed to be 321 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Best management practices assumed

[13] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[14] PG&E. 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers
See: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

to be incorporated into construction of the proposed project include but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. In 2021 as shown in Table 7, annual emissions resulting from operation of the proposed project are predicted to be 780 MT of CO_2e. The annual emissions from operation of the existing buildings in 2021 are computed as 135 MT of CO_2e. The net emissions resulting from the project would be 645 MT of CO_2e. The 2030 service population emissions would be 2.1 MT CO2e/year/service population, which is lower than the 2030 "Substantial Progress' Service Population Metric of 2.6 MT CO2e/year/service population. Therefore, this project would have a *less-than-significant* impact.

Table 7. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Existing in 2021	Proposed Project in 2021	Proposed Project in 2030
Area	<1	2	3
Energy Consumption	27	76	76
Mobile	103	652	502
Solid Waste Generation	3	43	42
Water Usage	<1	7	7
Total	135	780	630
Net New Emissions		**645**	**495**
Service Population Emissions		**2.6**	**2.1**
2030 "Substantial Progress" Service Population Metric	-	-	2.6 MT CO2e/year/service population
Significant?			**No**

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output for project construction and operational criteria air pollutant and GHG emissions. The operational output for existing uses is also included in this attachment. Also included are any modeling assumptions.

Attachment 3 includes the screening community risk calculations from sources affecting the project and MEI.

Attachment 4 is the construction health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

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.[15] 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.[16] This HRA used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[17] Exposure parameters from the OEHHA guidelines and the recent 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 recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

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[15] 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.

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

[17] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

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. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity that would have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

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

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

Where:

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

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

Where:

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

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

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

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

Non-Cancer Hazards

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

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

Annual $PM_{2.5}$ Concentrations

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

Attachment 2: CalEEMod Modeling Output

Project Name: Church of the ValleySchool Expansion

Project Size	_____ Dwelling Units	3.92 total project acres disturbed	
	_____ s.f.congregate care	_____ s.f. retail	
	_____ s.f. office/commercial	_____ s.f. other, specify:	
	11,538 s.f. other, K-8 School:	up to 222 students	**Complete ALL Portions in Yellow**
	_____ s.f. parking garage	_____ spaces	
	_____ s.f. parking lot	_____ spaces	
Construction Hours	am to	pm	

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Comments
	Demolition	**Start Date:**	**e.g., 9/1/2016**	**Total phase:**	**20**		**Overall Import/Export Volumes**
		End Date:					
1	Concrete/Industrial Saws	81	0.73	8	20	8	**Demolition Volume**
3	Excavators	162	0.38	8	20	8	Square footage of buildings to be demolished
2	Rubber-Tired Dozers	255	0.4	8	20	8	(*or* total tons to be hauled)
	Tractors/Loaders/Backhoes	97	0.37			0	_?_ square feet *or*
							_?_ Hauling volume (tons)
	Site Preperation	**Start Date:**		**Total phase:**	**5**		Any pavement demolished and hauled? _?_ tons
		End Date:					
	Graders	174	0.41			0	**Soil Hauling Volume**
3	Rubber Tired Dozers	255	0.4	8	5	8	Export volume = _?_ cubic yards?
4	Tractors/Loaders/Backhoes	97	0.37	8	5	8	Import volume = _?_ cubic yards?
	Grading / Excavation	**Start Date:**		**Total phase:**	**8**		
		End Date:					**Soil Hauling Volume**
	Scrapers	**361**	**0.48**			0	
1	Excavators	162	0.38	8	8	8	Export volume = _?_ cubic yards?
1	Graders	174	0.41	8	8	8	Import volume = _?_ cubic yards?
1	Rubber Tired Dozers	255	0.4	8	8	8	
3	Tractors/Loaders/Backhoes	97	0.37	8	8	8	
	Other Equipment?						
	Trenching	**Start Date:**		**Total phase:**	**10**		
		End Date:					
1	Tractor/Loader/Backhoe	97	0.37	6	10	6	
1	Excavators	162	0.38	6	10	6	
	Other Equipment?						
	Building - Exterior	**Start Date:**		**Total phase:**	**230**		**Cement Trucks? _?_ Total Round-Trips**
		End Date:					
1	Cranes	226	0.29	7	230	7	Electric? (Y/N) ___ Otherwise assumed diesel
3	Forklifts	89	0.2	8	230	8	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	230	8	Or temporary line power? (Y/N) ___
3	Tractors/Loaders/Backhoes	97	0.37	7	230	7	otherwise, assume diesel generator
1	Welders	46	0.45	8	230	8	
	Other Equipment?					0	
Building - Interior/Architectural Coating		**Start Date:**		**Total phase:**	**18**		
		End Date:					
1	Air Compressors	78	0.48	6	18	6	
	Aerial Lift	62	0.31			0	
	Other Equipment?						
	Paving	**Start Date:**		**Total phase:**	**18**		
		Start Date:					
2	Cement and Mortar Mixers	9	0.56	6	18	6	
1	Pavers	125	0.42	8	18	8	**Asphalt? ___ cubic yards or ____ round trips?**
2	Paving Equipment	130	0.36	6	18	6	
2	Rollers	80	0.38	6	18	6	
1	Tractors/Loaders/Backhoes	97	0.37	8	18	8	
	Other Equipment?						

Equipment listed in this sheet is to provide an example of inputs — **Add or subtract phases and equipment, as appropriate**

It is assumed that water trucks would be used during grading — **Modify horepower or load factor, as appropriate**

Typical Equipment Type & Load Factors

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

Project Name: Church of the Valley Memory Faciltiy

Project Size	58 Dwelling Units	1.53 total project acres disturbed	
	23,032 s.f.congregate care	_____ s.f. retail	
	_____ s.f. office/commercial	_____ s.f. other, specify:	
	_____ s.f. other, specify:		**Complete ALL Portions in Yellow**
	_____ s.f. parking garage	_____ spaces	
	_____ s.f. parking lot	_____ spaces	
Construction Hours	am to	pm	

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Comments
	Demolition	**Start Date:**	**e.g., 9/1/2016**	**Total phase:**	**20**		**Overall Import/Export Volumes**
		End Date:					
1	Concrete/Industrial Saws	81	0.73	8	20	8	**Demolition Volume**
	Excavators	162	0.38			0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	255	0.4	8	20	8	(*or* total tons to be hauled)
3	Tractors/Loaders/Backhoes	97	0.37	8	20	8	_?_ square feet *or*
							_?_ Hauling volume (tons)
	Site Preperation	**Start Date:**		**Total phase:**	**2**		Any pavement demolished and hauled? _?_ tons
		End Date:					
1	Graders	174	0.41	8	2	8	**Soil Hauling Volume**
1	Rubber Tired Dozers	255	0.4	7	2	7	Export volume = _?_ cubic yards?
1	Tractors/Loaders/Backhoes	97	0.37	8	2	8	Import volume = _?_ cubic yards?
	Grading / Excavation	**Start Date:**		**Total phase:**	**4**		
		End Date:					**Soil Hauling Volume**
	Scrapers	**361**	**0.48**			0	
	Excavators	162	0.38			0	Export volume = _?_ cubic yards?
1	Graders	174	0.41	6	4	6	Import volume = _?_ cubic yards?
1	Rubber Tired Dozers	255	0.4	6	4	6	
1	Tractors/Loaders/Backhoes	97	0.37	7	4	7	
	Other Equipment?						
	Trenching	**Start Date:**		**Total phase:**	**10**		
		End Date:					
1	Tractor/Loader/Backhoe	97	0.37	6	10	6	
1	Excavators	162	0.38	6	10	6	
	Other Equipment?						
	Building - Exterior	**Start Date:**		**Total phase:**	**200**		**Cement Trucks? _?_ Total Round-Trips**
		End Date:					
1	Cranes	226	0.29	6	200	6	Electric? (Y/N) ___ Otherwise assumed diesel
1	Forklifts	89	0.2	6	200	6	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	200	8	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	6	200	6	otherwise, assume diesel generator
3	Welders	46	0.45	8	200	8	
	Other Equipment?					0	
Building - Interior/Architectural Coating		**Start Date:**		**Total phase:**	**10**		
		End Date:					
1	Air Compressors	78	0.48	6	10	6	
	Aerial Lift	62	0.31			0	
	Other Equipment?						
	Paving	**Start Date:**		**Total phase:**	**10**		
		Start Date:					
1	Cement and Mortar Mixers	9	0.56	6	10	6	
1	Pavers	125	0.42	6	10	6	**Asphalt? ___ cubic yards or ____ round trips?**
1	Paving Equipment	130	0.36	8	10	8	
1	Rollers	80	0.38	7	10	7	
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	
	Other Equipment?						

Equipment listed in this sheet is to provide an example of inputs — **Add or subtract phases and equipment, as appropriate**

It is assumed that water trucks would be used during grading — **Modify horepower or load factor, as appropriate**

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
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Crawler Tractors	208	0.43
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Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

18-018 Church of the Valley San Ramon, School & Memory Care, AQ

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Congregate Care (Assisted Living)	54.00	Dwelling Unit	1.53	22,991.00	154
Elementary School	195.00	Student	0.87	11,650.00	0
Parking Lot	61.00	Space	0.55	24,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Client emails and plans

Construction Phase - Default Schedule

Off-road Equipment - Crane = 2 hours/day

Off-road Equipment - default equipment

Off-road Equipment -

Grading - balanced site

Off-road Equipment - Demo pavement for school

Off-road Equipment -

Off-road Equipment -

Demolition - 277 tons at school expansion

Trips and VMT - 302 one way concrete trips for const.; 40 one way paving trips

Vehicle Trips - memory care 3.06, 2.46 Sat, 2.72 Sun; school 4.1

Woodstoves - all gas no wood

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - Temp. Line power generator

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	8.10	17.28
tblFireplaces	NumberWood	9.18	0.00
tblLandUse	LandUseSquareFeet	54,000.00	22,991.00
tblLandUse	LandUseSquareFeet	16,302.66	11,650.00
tblLandUse	LotAcreage	3.38	1.53
tblLandUse	LotAcreage	0.37	0.87
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	302.00
tblTripsAndVMT	HaulingTripNumber	0.00	40.00
tblVehicleTrips	ST_TR	2.20	2.46
tblVehicleTrips	SU_TR	2.44	2.72
tblVehicleTrips	WD_TR	2.74	3.06
tblVehicleTrips	WD_TR	1.29	4.10
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3553	2.2189	1.9757	3.7100e-003	0.0860	0.1219	0.2078	0.0273	0.1170	0.1442	0.0000	319.7322	319.7322	0.0489	0.0000	320.9552
2020	0.1833	6.8400e-003	8.4300e-003	2.0000e-005	3.5000e-004	4.5000e-004	8.0000e-004	9.0000e-005	4.5000e-004	5.4000e-004	0.0000	1.3275	1.3275	9.0000e-005	0.0000	1.3296
Maximum	**0.3553**	**2.2189**	**1.9757**	**3.7100e-003**	**0.0860**	**0.1219**	**0.2078**	**0.0273**	**0.1170**	**0.1442**	**0.0000**	**319.7322**	**319.7322**	**0.0489**	**0.0000**	**320.9552**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3064	1.8033	1.5661	3.7100e-003	0.0860	0.0970	0.1830	0.0273	0.0921	0.1194	0.0000	257.5592	257.5592	0.0450	0.0000	258.6837

2020	0.1833	6.8400e-003	8.4300e-003	2.0000e-005	3.5000e-004	4.5000e-004	8.0000e-004	9.0000e-005	4.5000e-004	5.4000e-004	0.0000	1.3275	1.3275	9.0000e-005	0.0000	1.3296
Maximum	**0.3064**	**1.8033**	**1.5661**	**3.7100e-003**	**0.0860**	**0.0970**	**0.1830**	**0.0273**	**0.0921**	**0.1194**	**0.0000**	**257.5592**	**257.5592**	**0.0450**	**0.0000**	**258.6837**

	ROG	NOx	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	**9.07**	**18.67**	**20.64**	**0.00**	**0.00**	**20.31**	**11.91**	**0.00**	**21.15**	**17.16**	**0.00**	**19.36**	**19.36**	**8.04**	**0.00**	**19.32**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	0.6970	0.6201
2	**4-1-2019**	**6-30-2019**	0.6152	0.4780
3	**7-1-2019**	**9-30-2019**	0.6219	0.4832
4	**10-1-2019**	**12-31-2019**	0.6470	0.5354
5	**1-1-2020**	**3-31-2020**	0.1698	0.1698
		Highest	0.6970	0.6201

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	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457
Energy	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	75.0678	75.0678	4.5700e-003	1.4700e-003	75.6193
Mobile	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303
Waste						0.0000	0.0000		0.0000	0.0000	17.2258	0.0000	17.2258	1.0180	0.0000	42.6762
Water						0.0000	0.0000		0.0000	0.0000	1.4120	4.4216	5.8336	5.3000e-003	3.1600e-003	6.9085
Total	**0.3688**	**0.9059**	**2.5814**	**7.3500e-003**	**0.6065**	**0.0111**	**0.6177**	**0.1628**	**0.0107**	**0.1735**	**18.6379**	**733.5238**	**752.1617**	**1.0531**	**4.6700e-003**	**779.8800**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457
Energy	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	75.0678	75.0678	4.5700e-003	1.4700e-003	75.6193
Mobile	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303
Waste						0.0000	0.0000		0.0000	0.0000	17.2258	0.0000	17.2258	1.0180	0.0000	42.6762
Water						0.0000	0.0000		0.0000	0.0000	1.4120	4.4216	5.8336	5.3000e-003	3.1600e-003	6.9085
Total	**0.3688**	**0.9059**	**2.5814**	**7.3500e-003**	**0.6065**	**0.0111**	**0.6177**	**0.1628**	**0.0107**	**0.1735**	**18.6379**	**733.5238**	**752.1617**	**1.0531**	**4.6700e-003**	**779.8800**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	1/31/2019	5	3	
3	Grading	Grading	2/1/2019	2/8/2019	5	6	
4	Building Construction	Building Construction	2/9/2019	12/13/2019	5	220	
5	Paving	Paving	12/14/2019	12/27/2019	5	10	
6	Architectural Coating	Architectural Coating	12/28/2019	1/10/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.55

Residential Indoor: 46,557; Residential Outdoor: 15,519; Non-Residential Indoor: 17,475; Non-Residential Outdoor: 5,825; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	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	5	13.00	0.00	27.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	54.00	12.00	302.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	40.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9600e-003	0.0000	2.9600e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**2.9600e-003**	**0.0129**	**0.0158**	**4.5000e-004**	**0.0120**	**0.0125**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Unmitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.2000e-003	7.7000e-004	1.0000e-005	2.3000e-004	2.0000e-005	2.5000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.0340	1.0340	5.0000e-005	0.0000	1.0351
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	4.8000e-004	3.6000e-004	3.6500e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9342	0.9342	3.0000e-005	0.0000	0.9349
Total	**6.0000e-004**	**4.5600e-003**	**4.4200e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**3.3000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.9682**	**1.9682**	**8.0000e-005**	**0.0000**	**1.9700**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9600e-003	0.0000	2.9600e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**2.9600e-003**	**0.0129**	**0.0158**	**4.5000e-004**	**0.0120**	**0.0125**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.2000e-003	7.7000e-004	1.0000e-005	2.3000e-004	2.0000e-005	2.5000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.0340	1.0340	5.0000e-005	0.0000	1.0351
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	4.8000e-004	3.6000e-004	3.6500e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9342	0.9342	3.0000e-005	0.0000	0.9349

Total	**6.0000e-004**	**4.5600e-003**	**4.4200e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**3.3000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.9682**	**1.9682**	**8.0000e-005**	**0.0000**	**1.9700**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**2.3900e-003**	**1.2800e-003**	**3.6700e-003**	**2.6000e-004**	**1.1800e-003**	**1.4400e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

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	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0862	0.0862	0.0000	0.0000	0.0863
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0862**	**0.0862**	**0.0000**	**0.0000**	**0.0863**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**2.3900e-003**	**1.2800e-003**	**3.6700e-003**	**2.6000e-004**	**1.1800e-003**	**1.4400e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

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	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0862	0.0862	0.0000	0.0000	0.0863
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0862**	**0.0862**	**0.0000**	**0.0000**	**0.0863**

3.4 Grading - 2019

Unmitigated Construction On-Site

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

Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**0.0197**	**3.2200e-003**	**0.0229**	**0.0101**	**2.9600e-003**	**0.0131**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2156	0.2156	1.0000e-005	0.0000	0.2157
Total	**1.1000e-004**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2156**	**0.2156**	**1.0000e-005**	**0.0000**	**0.2157**

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					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**0.0197**	**3.2200e-003**	**0.0229**	**0.0101**	**2.9600e-003**	**0.0131**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2156	0.2156	1.0000e-005	0.0000	0.2157
Total	**1.1000e-004**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2156**	**0.2156**	**1.0000e-005**	**0.0000**	**0.2157**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2398	1.5846	1.4888	2.2800e-003		0.0989	0.0989		0.0956	0.0956	0.0000	187.9788	187.9788	0.0345	0.0000	188.8406
Total	**0.2398**	**1.5846**	**1.4888**	**2.2800e-003**		**0.0989**	**0.0989**		**0.0956**	**0.0956**	**0.0000**	**187.9788**	**187.9788**	**0.0345**	**0.0000**	**188.8406**

Unmitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0470	8.6100e-003	1.2000e-004	2.5600e-003	1.8000e-004	2.7400e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	11.5649	11.5649	5.3000e-004	0.0000	11.5782
Vendor	6.5500e-003	0.1679	0.0438	3.6000e-004	8.6800e-003	1.2400e-003	9.9200e-003	2.5100e-003	1.1800e-003	3.6900e-003	0.0000	34.6316	34.6316	1.8500e-003	0.0000	34.6777
Worker	0.0219	0.0164	0.1669	4.7000e-004	0.0471	3.2000e-004	0.0474	0.0125	3.0000e-004	0.0128	0.0000	42.6875	42.6875	1.1600e-003	0.0000	42.7167
Total	**0.0298**	**0.2312**	**0.2193**	**9.5000e-004**	**0.0584**	**1.7400e-003**	**0.0601**	**0.0157**	**1.6600e-003**	**0.0174**	**0.0000**	**88.8840**	**88.8840**	**3.5400e-003**	**0.0000**	**88.9726**

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	0.1910	1.1690	1.0793	2.2800e-003		0.0741	0.0741		0.0708	0.0708	0.0000	125.8058	125.8058	0.0305	0.0000	126.5692
Total	**0.1910**	**1.1690**	**1.0793**	**2.2800e-003**		**0.0741**	**0.0741**		**0.0708**	**0.0708**	**0.0000**	**125.8058**	**125.8058**	**0.0305**	**0.0000**	**126.5692**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0470	8.6100e-003	1.2000e-004	2.5600e-003	1.8000e-004	2.7400e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	11.5649	11.5649	5.3000e-004	0.0000	11.5782
Vendor	6.5500e-003	0.1679	0.0438	3.6000e-004	8.6800e-003	1.2400e-003	9.9200e-003	2.5100e-003	1.1800e-003	3.6900e-003	0.0000	34.6316	34.6316	1.8500e-003	0.0000	34.6777
Worker	0.0219	0.0164	0.1669	4.7000e-004	0.0471	3.2000e-004	0.0474	0.0125	3.0000e-004	0.0128	0.0000	42.6875	42.6875	1.1600e-003	0.0000	42.7167

Total	**0.0298**	**0.2312**	**0.2193**	**9.5000e-004**	**0.0584**	**1.7400e-003**	**0.0601**	**0.0157**	**1.6600e-003**	**0.0174**	**0.0000**	**88.8840**	**88.8840**	**3.5400e-003**	**0.0000**	**88.9726**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	7.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9500e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	6.2300e-003	1.1400e-003	2.0000e-005	3.4000e-004	2.0000e-005	3.6000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	1.5318	1.5318	7.0000e-005	0.0000	1.5335
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	2.8000e-004	2.1000e-004	2.1100e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5390	0.5390	1.0000e-005	0.0000	0.5394
Total	**4.6000e-004**	**6.4400e-003**	**3.2500e-003**	**3.0000e-005**	**9.3000e-004**	**2.0000e-005**	**9.6000e-004**	**2.5000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**2.0708**	**2.0708**	**8.0000e-005**	**0.0000**	**2.0729**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	7.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9500e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	6.2300e-003	1.1400e-003	2.0000e-005	3.4000e-004	2.0000e-005	3.6000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	1.5318	1.5318	7.0000e-005	0.0000	1.5335
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	2.8000e-004	2.1000e-004	2.1100e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5390	0.5390	1.0000e-005	0.0000	0.5394
Total	**4.6000e-004**	**6.4400e-003**	**3.2500e-003**	**3.0000e-005**	**9.3000e-004**	**2.0000e-005**	**9.6000e-004**	**2.5000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**2.0708**	**2.0708**	**8.0000e-005**	**0.0000**	**2.0729**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

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

Archit. Coating	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0458**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0791	0.0791	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0791**	**0.0791**	**0.0000**	**0.0000**	**0.0791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0458**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0791	0.0791	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0791**	**0.0791**	**0.0000**	**0.0000**	**0.0791**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.1831**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

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	1.5000e-004	1.1000e-004	1.1100e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3062	0.3062	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1100e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3062**	**0.3062**	**1.0000e-005**	**0.0000**	**0.3063**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.1831**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

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	1.5000e-004	1.1000e-004	1.1100e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3062	0.3062	1.0000e-005	0.0000	0.3063

Total	**1.5000e-004**	**1.1000e-004**	**1.1100e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3062**	**0.3062**	**1.0000e-005**	**0.0000**	**0.3063**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303
Unmitigated	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	165.24	132.84	146.88	364,892	364,892
Elementary School	799.50	0.00	0.00	1,259,178	1,259,178
Parking Lot	0.00	0.00	0.00		
Total	964.74	132.84	146.88	1,624,069	1,624,069

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Congregate Care (Assisted	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.001810	0.005454	0.002746	0.000871
Elementary School	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.001810	0.005454	0.002746	0.000871
Parking Lot	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.001810	0.005454	0.002746	0.000871

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	38.7081	38.7081	3.8700e-003	8.0000e-004	39.0435
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	38.7081	38.7081	3.8700e-003	8.0000e-004	39.0435
NaturalGas Mitigated	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	36.3598	36.3598	7.0000e-004	6.7000e-004	36.5758
NaturalGas Unmitigated	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	36.3598	36.3598	7.0000e-004	6.7000e-004	36.5758

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					

Congregate Care (Assisted Living)	466530	2.5200e-003	0.0215	9.1500e-003	1.4000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	24.8958	24.8958	4.8000e-004	4.6000e-004	25.0438
Elementary School	214826	1.1600e-003	0.0105	8.8500e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4639	11.4639	2.2000e-004	2.1000e-004	11.5321
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.6800e-003**	**0.0320**	**0.0180**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**	**0.0000**	**36.3598**	**36.3598**	**7.0000e-004**	**6.7000e-004**	**36.5758**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Congregate Care (Assisted Living)	466530	2.5200e-003	0.0215	9.1500e-003	1.4000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	24.8958	24.8958	4.8000e-004	4.6000e-004	25.0438
Elementary School	214826	1.1600e-003	0.0105	8.8500e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4639	11.4639	2.2000e-004	2.1000e-004	11.5321
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.6800e-003**	**0.0320**	**0.0180**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**	**0.0000**	**36.3598**	**36.3598**	**7.0000e-004**	**6.7000e-004**	**36.5758**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	222931	29.3247	2.9300e-003	6.1000e-004	29.5788
Elementary School	62793.5	8.2600	8.3000e-004	1.7000e-004	8.3316
Parking Lot	8540	1.1234	1.1000e-004	2.0000e-005	1.1331

Total		**38.7081**	**3.8700e-003**	**8.0000e-004**	**39.0435**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	222931	29.3247	2.9300e-003	6.1000e-004	29.5788
Elementary School	62793.5	8.2600	8.3000e-004	1.7000e-004	8.3316
Parking Lot	8540	1.1234	1.1000e-004	2.0000e-005	1.1331
Total		**38.7081**	**3.8700e-003**	**8.0000e-004**	**39.0435**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457
Unmitigated	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457

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	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2000e-004	1.8600e-003	7.9000e-004	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1572	2.1572	4.0000e-005	4.0000e-005	2.1700
Landscaping	0.0124	4.6600e-003	0.4042	2.0000e-005		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	0.6595	0.6595	6.5000e-004	0.0000	0.6757
Total	**0.1723**	**6.5200e-003**	**0.4050**	**3.0000e-005**		**2.3700e-003**	**2.3700e-003**		**2.3700e-003**	**2.3700e-003**	**0.0000**	**2.8168**	**2.8168**	**6.9000e-004**	**4.0000e-005**	**2.8457**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2000e-004	1.8600e-003	7.9000e-004	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1572	2.1572	4.0000e-005	4.0000e-005	2.1700
Landscaping	0.0124	4.6600e-003	0.4042	2.0000e-005		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	0.6595	0.6595	6.5000e-004	0.0000	0.6757
Total	**0.1723**	**6.5200e-003**	**0.4050**	**3.0000e-005**		**2.3700e-003**	**2.3700e-003**		**2.3700e-003**	**2.3700e-003**	**0.0000**	**2.8168**	**2.8168**	**6.9000e-004**	**4.0000e-005**	**2.8457**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.8336	5.3000e-003	3.1600e-003	6.9085
Unmitigated	5.8336	5.3000e-003	3.1600e-003	6.9085

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	3.51832 / 2.21807	4.7702	4.6400e-003	2.7800e-003	5.7146
Elementary School	0.472727 / 1.21558	1.0634	6.7000e-004	3.8000e-004	1.1939
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.8336**	**5.3100e-003**	**3.1600e-003**	**6.9085**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	3.51832 / 2.21807	4.7702	4.6400e-003	2.7800e-003	5.7146
Elementary School	0.472727 / 1.21558	1.0634	6.7000e-004	3.8000e-004	1.1939
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.8336**	**5.3100e-003**	**3.1600e-003**	**6.9085**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.2258	1.0180	0.0000	42.6762
Unmitigated	17.2258	1.0180	0.0000	42.6762

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	49.27	10.0014	0.5911	0.0000	24.7780
Elementary School	35.59	7.2245	0.4270	0.0000	17.8983
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**17.2258**	**1.0180**	**0.0000**	**42.6762**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	49.27	10.0014	0.5911	0.0000	24.7780
Elementary School	35.59	7.2245	0.4270	0.0000	17.8983
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**17.2258**	**1.0180**	**0.0000**	**42.6762**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

18-018 Church of the Valley Existing

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	40.00	Student	0.50	16,096.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Client plans for sf

Construction Phase - Existing land use

Off-road Equipment - No equipment for existing

Grading - no grading for existing

Demolition -

Trips and VMT -

Vehicle Trips - Existing trip rate 4.1 (164/40)

Water And Wastewater - 100% aerobic

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	3,344.13	16,096.00
tblLandUse	LotAcreage	0.08	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	WD_TR	1.29	4.10
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0180	0.0180	0.0000	0.0000	0.0180
Maximum	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0180**	**0.0180**	**0.0000**	**0.0000**	**0.0180**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0180	0.0180	0.0000	0.0000	0.0180
Maximum	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0180**	**0.0180**	**0.0000**	**0.0000**	**0.0180**

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

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
1	**1-1-2019**	**3-31-2019**	0.0000	0.0000
		Highest	0.0000	0.0000

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	0.0713	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.1000e-004	7.1000e-004	0.0000	0.0000	7.6000e-004
Energy	1.6000e-003	0.0146	0.0122	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	27.2512	27.2512	1.4400e-003	5.3000e-004	27.4442
Mobile	0.0309	0.1386	0.3443	1.1300e-003	0.0965	9.9000e-004	0.0975	0.0259	9.3000e-004	0.0268	0.0000	103.6500	103.6500	3.9100e-003	0.0000	103.7478
Waste						0.0000	0.0000		0.0000	0.0000	1.4818	0.0000	1.4818	0.0876	0.0000	3.6712
Water						0.0000	0.0000		0.0000	0.0000	0.0343	0.1838	0.2181	1.4000e-004	8.0000e-005	0.2449

Total	**0.1038**	**0.1532**	**0.3569**	**1.2200e-003**	**0.0965**	**2.1000e-003**	**0.0986**	**0.0259**	**2.0400e-003**	**0.0279**	**1.5161**	**131.0857**	**132.6019**	**0.0931**	**6.1000e-004**	**135.1088**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0713	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.1000e-004	7.1000e-004	0.0000	0.0000	7.6000e-004
Energy	1.6000e-003	0.0146	0.0122	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	27.2512	27.2512	1.4400e-003	5.3000e-004	27.4442
Mobile	0.0309	0.1386	0.3443	1.1300e-003	0.0965	9.9000e-004	0.0975	0.0259	9.3000e-004	0.0268	0.0000	103.6500	103.6500	3.9100e-003	0.0000	103.7478
Waste						0.0000	0.0000		0.0000	0.0000	1.4818	0.0000	1.4818	0.0876	0.0000	3.6712
Water						0.0000	0.0000		0.0000	0.0000	0.0343	0.1838	0.2181	1.4000e-004	8.0000e-005	0.2449
Total	**0.1038**	**0.1532**	**0.3569**	**1.2200e-003**	**0.0965**	**2.1000e-003**	**0.0986**	**0.0259**	**2.0400e-003**	**0.0279**	**1.5161**	**131.0857**	**132.6019**	**0.0931**	**6.1000e-004**	**135.1088**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/15/2019	1/15/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0180	0.0180	0.0000	0.0000	0.0180
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0180**	**0.0180**	**0.0000**	**0.0000**	**0.0180**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0180	0.0180	0.0000	0.0000	0.0180
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0180**	**0.0180**	**0.0000**	**0.0000**	**0.0180**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0309	0.1386	0.3443	1.1300e-003	0.0965	9.9000e-004	0.0975	0.0259	9.3000e-004	0.0268	0.0000	103.6500	103.6500	3.9100e-003	0.0000	103.7478
Unmitigated	0.0309	0.1386	0.3443	1.1300e-003	0.0965	9.9000e-004	0.0975	0.0259	9.3000e-004	0.0268	0.0000	103.6500	103.6500	3.9100e-003	0.0000	103.7478

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	164.00	0.00	0.00	258,293	258,293
Total	164.00	0.00	0.00	258,293	258,293

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.001810	0.005454	0.002746	0.000871

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	11.4122	11.4122	1.1400e-003	2.4000e-004	11.5111
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	11.4122	11.4122	1.1400e-003	2.4000e-004	11.5111
NaturalGas Mitigated	1.6000e-003	0.0146	0.0122	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	15.8389	15.8389	3.0000e-004	2.9000e-004	15.9331
NaturalGas Unmitigated	1.6000e-003	0.0146	0.0122	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	15.8389	15.8389	3.0000e-004	2.9000e-004	15.9331

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					

Elementary School	296810	1.6000e-003	0.0146	0.0122	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	15.8389	15.8389	3.0000e-004	2.9000e-004	15.9331
Total		**1.6000e-003**	**0.0146**	**0.0122**	**9.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**15.8389**	**15.8389**	**3.0000e-004**	**2.9000e-004**	**15.9331**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	296810	1.6000e-003	0.0146	0.0122	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	15.8389	15.8389	3.0000e-004	2.9000e-004	15.9331
Total		**1.6000e-003**	**0.0146**	**0.0122**	**9.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**15.8389**	**15.8389**	**3.0000e-004**	**2.9000e-004**	**15.9331**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	86757.4	11.4122	1.1400e-003	2.4000e-004	11.5111
Total		**11.4122**	**1.1400e-003**	**2.4000e-004**	**11.5111**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	86757.4	11.4122	1.1400e-003	2.4000e-004	11.5111
Total		**11.4122**	**1.1400e-003**	**2.4000e-004**	**11.5111**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0713	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.1000e-004	7.1000e-004	0.0000	0.0000	7.6000e-004
Unmitigated	0.0713	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.1000e-004	7.1000e-004	0.0000	0.0000	7.6000e-004

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	8.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.1000e-004	7.1000e-004	0.0000	0.0000	7.6000e-004
Total	**0.0713**	**0.0000**	**3.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.1000e-004**	**7.1000e-004**	**0.0000**	**0.0000**	**7.6000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.1000e-004	7.1000e-004	0.0000	0.0000	7.6000e-004
Total	**0.0713**	**0.0000**	**3.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.1000e-004**	**7.1000e-004**	**0.0000**	**0.0000**	**7.6000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	0.2181	1.4000e-004	8.0000e-005	0.2449
Unmitigated	0.2181	1.4000e-004	8.0000e-005	0.2449

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.0969696 / 0.24935	0.2181	1.4000e-004	8.0000e-005	0.2449
Total		**0.2181**	**1.4000e-004**	**8.0000e-005**	**0.2449**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.0969696 / 0.24935	0.2181	1.4000e-004	8.0000e-005	0.2449
Total		**0.2181**	**1.4000e-004**	**8.0000e-005**	**0.2449**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.4818	0.0876	0.0000	3.6712
Unmitigated	1.4818	0.0876	0.0000	3.6712

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	7.3	1.4818	0.0876	0.0000	3.6712
Total		**1.4818**	**0.0876**	**0.0000**	**3.6712**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	7.3	1.4818	0.0876	0.0000	3.6712
Total		**1.4818**	**0.0876**	**0.0000**	**3.6712**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

18-018 Church of the Valley San Ramon, School & Memory Care, GHG 2030

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	195.00	Student	0.87	11,650.00	0
Parking Lot	61.00	Space	0.55	24,400.00	0
Congregate Care (Assisted Living)	54.00	Dwelling Unit	1.53	22,991.00	154

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Client emails and plans

Construction Phase - Default Schedule

Off-road Equipment -

Off-road Equipment - Crane = 2 hours/day

Off-road Equipment - Demo pavement for school

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - default equipment

Trips and VMT - 302 one way concrete trips for const.; 40 one way paving trips

Demolition - 277 tons at school expansion

Grading - balanced site

Vehicle Trips - memory care 3.06, 2.46 Sat, 2.72 Sun; school 4.1

Woodstoves - all gas no wood

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - Temp. Line power generator

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	8.10	17.28
tblFireplaces	NumberWood	9.18	0.00
tblLandUse	LandUseSquareFeet	16,302.66	11,650.00
tblLandUse	LandUseSquareFeet	54,000.00	22,991.00
tblLandUse	LotAcreage	0.37	0.87
tblLandUse	LotAcreage	3.38	1.53
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	302.00
tblTripsAndVMT	HaulingTripNumber	0.00	40.00
tblVehicleTrips	ST_TR	2.20	2.46
tblVehicleTrips	SU_TR	2.44	2.72
tblVehicleTrips	WD_TR	2.74	3.06
tblVehicleTrips	WD_TR	1.29	4.10
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3553	2.2189	1.9757	3.7100e-003	0.0860	0.1219	0.2078	0.0273	0.1170	0.1442	0.0000	319.7322	319.7322	0.0489	0.0000	320.9552
2020	0.1833	6.8400e-003	8.4300e-003	2.0000e-005	3.5000e-004	4.5000e-004	8.0000e-004	9.0000e-005	4.5000e-004	5.4000e-004	0.0000	1.3275	1.3275	9.0000e-005	0.0000	1.3296
Maximum	**0.3553**	**2.2189**	**1.9757**	**3.7100e-003**	**0.0860**	**0.1219**	**0.2078**	**0.0273**	**0.1170**	**0.1442**	**0.0000**	**319.7322**	**319.7322**	**0.0489**	**0.0000**	**320.9552**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3064	1.8033	1.5661	3.7100e-003	0.0860	0.0970	0.1830	0.0273	0.0921	0.1194	0.0000	257.5592	257.5592	0.0450	0.0000	258.6837

2020	0.1833	6.8400e-003	8.4300e-003	2.0000e-005	3.5000e-004	4.5000e-004	8.0000e-004	9.0000e-005	4.5000e-004	5.4000e-004	0.0000	1.3275	1.3275	9.0000e-005	0.0000	1.3296
Maximum	**0.3064**	**1.8033**	**1.5661**	**3.7100e-003**	**0.0860**	**0.0970**	**0.1830**	**0.0273**	**0.0921**	**0.1194**	**0.0000**	**257.5592**	**257.5592**	**0.0450**	**0.0000**	**258.6837**

	ROG	NOx	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	**9.07**	**18.67**	**20.64**	**0.00**	**0.00**	**20.31**	**11.91**	**0.00**	**21.15**	**17.16**	**0.00**	**19.36**	**19.36**	**8.04**	**0.00**	**19.32**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	0.6970	0.6201
2	**4-1-2019**	**6-30-2019**	0.6152	0.4780
3	**7-1-2019**	**9-30-2019**	0.6219	0.4832
4	**10-1-2019**	**12-31-2019**	0.6470	0.5354
5	**1-1-2020**	**3-31-2020**	0.1698	0.1698
		Highest	0.6970	0.6201

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	0.1720	6.4900e-003	0.4030	3.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	2.8168	2.8168	6.8000e-004	4.0000e-005	2.8455
Energy	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	75.0678	75.0678	4.5700e-003	1.4700e-003	75.6193
Mobile	0.1125	0.5261	1.2377	5.4500e-003	0.6060	3.5700e-003	0.6096	0.1625	3.3200e-003	0.1658	0.0000	501.5002	501.5002	0.0153	0.0000	501.8814
Waste						0.0000	0.0000		0.0000	0.0000	17.2258	0.0000	17.2258	1.0180	0.0000	42.6762
Water						0.0000	0.0000		0.0000	0.0000	1.4120	4.4216	5.8336	5.3000e-003	3.1600e-003	6.9085
Total	**0.2882**	**0.5646**	**1.6587**	**5.6800e-003**	**0.6060**	**8.4900e-003**	**0.6145**	**0.1625**	**8.2400e-003**	**0.1708**	**18.6379**	**583.8064**	**602.4442**	**1.0438**	**4.6700e-003**	**629.9309**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1720	6.4900e-003	0.4030	3.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	2.8168	2.8168	6.8000e-004	4.0000e-005	2.8455
Energy	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	75.0678	75.0678	4.5700e-003	1.4700e-003	75.6193
Mobile	0.1125	0.5261	1.2377	5.4500e-003	0.6060	3.5700e-003	0.6096	0.1625	3.3200e-003	0.1658	0.0000	501.5002	501.5002	0.0153	0.0000	501.8814
Waste						0.0000	0.0000		0.0000	0.0000	17.2258	0.0000	17.2258	1.0180	0.0000	42.6762
Water						0.0000	0.0000		0.0000	0.0000	1.4120	4.4216	5.8336	5.3000e-003	3.1600e-003	6.9085
Total	**0.2882**	**0.5646**	**1.6587**	**5.6800e-003**	**0.6060**	**8.4900e-003**	**0.6145**	**0.1625**	**8.2400e-003**	**0.1708**	**18.6379**	**583.8064**	**602.4442**	**1.0438**	**4.6700e-003**	**629.9309**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	1/31/2019	5	3	
3	Grading	Grading	2/1/2019	2/8/2019	5	6	
4	Building Construction	Building Construction	2/9/2019	12/13/2019	5	220	
5	Paving	Paving	12/14/2019	12/27/2019	5	10	
6	Architectural Coating	Architectural Coating	12/28/2019	1/10/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.55

Residential Indoor: 46,557; Residential Outdoor: 15,519; Non-Residential Indoor: 17,475; Non-Residential Outdoor: 5,825; Striped

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	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	27.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	54.00	12.00	302.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	40.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9600e-003	0.0000	2.9600e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**2.9600e-003**	**0.0129**	**0.0158**	**4.5000e-004**	**0.0120**	**0.0125**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Unmitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.2000e-003	7.7000e-004	1.0000e-005	2.3000e-004	2.0000e-005	2.5000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.0340	1.0340	5.0000e-005	0.0000	1.0351
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	4.8000e-004	3.6000e-004	3.6500e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9342	0.9342	3.0000e-005	0.0000	0.9349
Total	**6.0000e-004**	**4.5600e-003**	**4.4200e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**3.3000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.9682**	**1.9682**	**8.0000e-005**	**0.0000**	**1.9700**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9600e-003	0.0000	2.9600e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**2.9600e-003**	**0.0129**	**0.0158**	**4.5000e-004**	**0.0120**	**0.0125**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.2000e-003	7.7000e-004	1.0000e-005	2.3000e-004	2.0000e-005	2.5000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.0340	1.0340	5.0000e-005	0.0000	1.0351
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	4.8000e-004	3.6000e-004	3.6500e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9342	0.9342	3.0000e-005	0.0000	0.9349

Total	**6.0000e-004**	**4.5600e-003**	**4.4200e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2900e-003**	**3.3000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.9682**	**1.9682**	**8.0000e-005**	**0.0000**	**1.9700**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**2.3900e-003**	**1.2800e-003**	**3.6700e-003**	**2.6000e-004**	**1.1800e-003**	**1.4400e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

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	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0862	0.0862	0.0000	0.0000	0.0863
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0862**	**0.0862**	**0.0000**	**0.0000**	**0.0863**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**2.3900e-003**	**1.2800e-003**	**3.6700e-003**	**2.6000e-004**	**1.1800e-003**	**1.4400e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

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	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0862	0.0862	0.0000	0.0000	0.0863
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0862**	**0.0862**	**0.0000**	**0.0000**	**0.0863**

3.4 Grading - 2019

Unmitigated Construction On-Site

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

Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**0.0197**	**3.2200e-003**	**0.0229**	**0.0101**	**2.9600e-003**	**0.0131**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2156	0.2156	1.0000e-005	0.0000	0.2157
Total	**1.1000e-004**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2156**	**0.2156**	**1.0000e-005**	**0.0000**	**0.2157**

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					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**0.0197**	**3.2200e-003**	**0.0229**	**0.0101**	**2.9600e-003**	**0.0131**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2156	0.2156	1.0000e-005	0.0000	0.2157
Total	**1.1000e-004**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2156**	**0.2156**	**1.0000e-005**	**0.0000**	**0.2157**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2398	1.5846	1.4888	2.2800e-003		0.0989	0.0989		0.0956	0.0956	0.0000	187.9788	187.9788	0.0345	0.0000	188.8406
Total	**0.2398**	**1.5846**	**1.4888**	**2.2800e-003**		**0.0989**	**0.0989**		**0.0956**	**0.0956**	**0.0000**	**187.9788**	**187.9788**	**0.0345**	**0.0000**	**188.8406**

Unmitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0470	8.6100e-003	1.2000e-004	2.5600e-003	1.8000e-004	2.7400e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	11.5649	11.5649	5.3000e-004	0.0000	11.5782
Vendor	6.5500e-003	0.1679	0.0438	3.6000e-004	8.6800e-003	1.2400e-003	9.9200e-003	2.5100e-003	1.1800e-003	3.6900e-003	0.0000	34.6316	34.6316	1.8500e-003	0.0000	34.6777
Worker	0.0219	0.0164	0.1669	4.7000e-004	0.0471	3.2000e-004	0.0474	0.0125	3.0000e-004	0.0128	0.0000	42.6875	42.6875	1.1600e-003	0.0000	42.7167
Total	**0.0298**	**0.2312**	**0.2193**	**9.5000e-004**	**0.0584**	**1.7400e-003**	**0.0601**	**0.0157**	**1.6600e-003**	**0.0174**	**0.0000**	**88.8840**	**88.8840**	**3.5400e-003**	**0.0000**	**88.9726**

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	0.1910	1.1690	1.0793	2.2800e-003		0.0741	0.0741		0.0708	0.0708	0.0000	125.8058	125.8058	0.0305	0.0000	126.5692
Total	**0.1910**	**1.1690**	**1.0793**	**2.2800e-003**		**0.0741**	**0.0741**		**0.0708**	**0.0708**	**0.0000**	**125.8058**	**125.8058**	**0.0305**	**0.0000**	**126.5692**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0470	8.6100e-003	1.2000e-004	2.5600e-003	1.8000e-004	2.7400e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	11.5649	11.5649	5.3000e-004	0.0000	11.5782
Vendor	6.5500e-003	0.1679	0.0438	3.6000e-004	8.6800e-003	1.2400e-003	9.9200e-003	2.5100e-003	1.1800e-003	3.6900e-003	0.0000	34.6316	34.6316	1.8500e-003	0.0000	34.6777
Worker	0.0219	0.0164	0.1669	4.7000e-004	0.0471	3.2000e-004	0.0474	0.0125	3.0000e-004	0.0128	0.0000	42.6875	42.6875	1.1600e-003	0.0000	42.7167

Total	**0.0298**	**0.2312**	**0.2193**	**9.5000e-004**	**0.0584**	**1.7400e-003**	**0.0601**	**0.0157**	**1.6600e-003**	**0.0174**	**0.0000**	**88.8840**	**88.8840**	**3.5400e-003**	**0.0000**	**88.9726**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	7.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9500e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	6.2300e-003	1.1400e-003	2.0000e-005	3.4000e-004	2.0000e-005	3.6000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	1.5318	1.5318	7.0000e-005	0.0000	1.5335
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	2.8000e-004	2.1000e-004	2.1100e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5390	0.5390	1.0000e-005	0.0000	0.5394
Total	**4.6000e-004**	**6.4400e-003**	**3.2500e-003**	**3.0000e-005**	**9.3000e-004**	**2.0000e-005**	**9.6000e-004**	**2.5000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**2.0708**	**2.0708**	**8.0000e-005**	**0.0000**	**2.0729**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	7.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9500e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	6.2300e-003	1.1400e-003	2.0000e-005	3.4000e-004	2.0000e-005	3.6000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	1.5318	1.5318	7.0000e-005	0.0000	1.5335
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	2.8000e-004	2.1000e-004	2.1100e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5390	0.5390	1.0000e-005	0.0000	0.5394
Total	**4.6000e-004**	**6.4400e-003**	**3.2500e-003**	**3.0000e-005**	**9.3000e-004**	**2.0000e-005**	**9.6000e-004**	**2.5000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**2.0708**	**2.0708**	**8.0000e-005**	**0.0000**	**2.0729**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

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

Archit. Coating	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0458**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0791	0.0791	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0791**	**0.0791**	**0.0000**	**0.0000**	**0.0791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0458**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0791	0.0791	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0791**	**0.0791**	**0.0000**	**0.0000**	**0.0791**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.1831**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

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	1.5000e-004	1.1000e-004	1.1100e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3062	0.3062	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1100e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3062**	**0.3062**	**1.0000e-005**	**0.0000**	**0.3063**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.1831**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

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	1.5000e-004	1.1000e-004	1.1100e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3062	0.3062	1.0000e-005	0.0000	0.3063

Total	**1.5000e-004**	**1.1000e-004**	**1.1100e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3062**	**0.3062**	**1.0000e-005**	**0.0000**	**0.3063**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1125	0.5261	1.2377	5.4500e-003	0.6060	3.5700e-003	0.6096	0.1625	3.3200e-003	0.1658	0.0000	501.5002	501.5002	0.0153	0.0000	501.8814
Unmitigated	0.1125	0.5261	1.2377	5.4500e-003	0.6060	3.5700e-003	0.6096	0.1625	3.3200e-003	0.1658	0.0000	501.5002	501.5002	0.0153	0.0000	501.8814

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	165.24	132.84	146.88	364,892	364,892
Elementary School	799.50	0.00	0.00	1,259,178	1,259,178
Parking Lot	0.00	0.00	0.00		
Total	964.74	132.84	146.88	1,624,069	1,624,069

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
Congregate Care (Assisted Living)	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.606524	0.034895	0.184335	0.108602	0.012129	0.004836	0.010863	0.026200	0.001662	0.001538	0.005105	0.002652	0.000659
Elementary School	0.606524	0.034895	0.184335	0.108602	0.012129	0.004836	0.010863	0.026200	0.001662	0.001538	0.005105	0.002652	0.000659
Parking Lot	0.606524	0.034895	0.184335	0.108602	0.012129	0.004836	0.010863	0.026200	0.001662	0.001538	0.005105	0.002652	0.000659

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	38.7081	38.7081	3.8700e-003	8.0000e-004	39.0435
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	38.7081	38.7081	3.8700e-003	8.0000e-004	39.0435
NaturalGas Mitigated	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	36.3598	36.3598	7.0000e-004	6.7000e-004	36.5758
NaturalGas Unmitigated	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	36.3598	36.3598	7.0000e-004	6.7000e-004	36.5758

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					

Congregate Care (Assisted Living)	466530	2.5200e-003	0.0215	9.1500e-003	1.4000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	24.8958	24.8958	4.8000e-004	4.6000e-004	25.0438
Elementary School	214826	1.1600e-003	0.0105	8.8500e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4639	11.4639	2.2000e-004	2.1000e-004	11.5321
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.6800e-003**	**0.0320**	**0.0180**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**	**0.0000**	**36.3598**	**36.3598**	**7.0000e-004**	**6.7000e-004**	**36.5758**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Congregate Care (Assisted Living)	466530	2.5200e-003	0.0215	9.1500e-003	1.4000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	24.8958	24.8958	4.8000e-004	4.6000e-004	25.0438
Elementary School	214826	1.1600e-003	0.0105	8.8500e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4639	11.4639	2.2000e-004	2.1000e-004	11.5321
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.6800e-003**	**0.0320**	**0.0180**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**	**0.0000**	**36.3598**	**36.3598**	**7.0000e-004**	**6.7000e-004**	**36.5758**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	222931	29.3247	2.9300e-003	6.1000e-004	29.5788
Elementary School	62793.5	8.2600	8.3000e-004	1.7000e-004	8.3316
Parking Lot	8540	1.1234	1.1000e-004	2.0000e-005	1.1331

Total		**38.7081**	**3.8700e-003**	**8.0000e-004**	**39.0435**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	222931	29.3247	2.9300e-003	6.1000e-004	29.5788
Elementary School	62793.5	8.2600	8.3000e-004	1.7000e-004	8.3316
Parking Lot	8540	1.1234	1.1000e-004	2.0000e-005	1.1331
Total		**38.7081**	**3.8700e-003**	**8.0000e-004**	**39.0435**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1720	6.4900e-003	0.4030	3.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	2.8168	2.8168	6.8000e-004	4.0000e-005	2.8455
Unmitigated	0.1720	6.4900e-003	0.4030	3.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	2.8168	2.8168	6.8000e-004	4.0000e-005	2.8455

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	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2000e-004	1.8600e-003	7.9000e-004	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1572	2.1572	4.0000e-005	4.0000e-005	2.1700
Landscaping	0.0122	4.6300e-003	0.4022	2.0000e-005		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	0.6595	0.6595	6.4000e-004	0.0000	0.6754
Total	**0.1720**	**6.4900e-003**	**0.4030**	**3.0000e-005**		**2.3800e-003**	**2.3800e-003**		**2.3800e-003**	**2.3800e-003**	**0.0000**	**2.8168**	**2.8168**	**6.8000e-004**	**4.0000e-005**	**2.8455**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2000e-004	1.8600e-003	7.9000e-004	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1572	2.1572	4.0000e-005	4.0000e-005	2.1700
Landscaping	0.0122	4.6300e-003	0.4022	2.0000e-005		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	0.6595	0.6595	6.4000e-004	0.0000	0.6754
Total	**0.1720**	**6.4900e-003**	**0.4030**	**3.0000e-005**		**2.3800e-003**	**2.3800e-003**		**2.3800e-003**	**2.3800e-003**	**0.0000**	**2.8168**	**2.8168**	**6.8000e-004**	**4.0000e-005**	**2.8455**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.8336	5.3000e-003	3.1600e-003	6.9085
Unmitigated	5.8336	5.3000e-003	3.1600e-003	6.9085

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	3.51832 / 2.21807	4.7702	4.6400e-003	2.7800e-003	5.7146
Elementary School	0.472727 / 1.21558	1.0634	6.7000e-004	3.8000e-004	1.1939
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.8336**	**5.3100e-003**	**3.1600e-003**	**6.9085**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	3.51832 / 2.21807	4.7702	4.6400e-003	2.7800e-003	5.7146
Elementary School	0.472727 / 1.21558	1.0634	6.7000e-004	3.8000e-004	1.1939
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.8336**	**5.3100e-003**	**3.1600e-003**	**6.9085**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.2258	1.0180	0.0000	42.6762
Unmitigated	17.2258	1.0180	0.0000	42.6762

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	49.27	10.0014	0.5911	0.0000	24.7780
Elementary School	35.59	7.2245	0.4270	0.0000	17.8983
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**17.2258**	**1.0180**	**0.0000**	**42.6762**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	49.27	10.0014	0.5911	0.0000	24.7780
Elementary School	35.59	7.2245	0.4270	0.0000	17.8983
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**17.2258**	**1.0180**	**0.0000**	**42.6762**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

18-018 Church of the Valley San Ramon, School & Memory Care Construction, TAC Tier 3 lvl 3

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Congregate Care (Assisted Living)	54.00	Dwelling Unit	1.53	22,991.00	154
Elementary School	195.00	Student	0.87	11,650.00	0
Parking Lot	61.00	Space	0.55	24,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Client emails and plans

Construction Phase - Default Schedule

Off-road Equipment - Crane = 2 hours/day

Off-road Equipment - default equipment

Off-road Equipment -

Grading - balanced site

Off-road Equipment - Demo pavement for school

Off-road Equipment -

Off-road Equipment -

Demolition - 277 tons at school expansion

Trips and VMT - 302 one way concrete trips for const.; 40 one way paving trips; TAC 1 mile trips

Vehicle Trips - memory care 3.06, 2.46 Sat, 2.72 Sun; school 4.1

Woodstoves - all gas no wood

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - Temp. Line power generator; BMPs Tier 3 DPF 3

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
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	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	8.10	17.28
tblFireplaces	NumberWood	9.18	0.00
tblLandUse	LandUseSquareFeet	54,000.00	22,991.00
tblLandUse	LandUseSquareFeet	16,302.66	11,650.00
tblLandUse	LotAcreage	3.38	1.53

tblLandUse	LotAcreage	0.37	0.87
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	302.00
tblTripsAndVMT	HaulingTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	2.20	2.46
tblVehicleTrips	SU_TR	2.44	2.72
tblVehicleTrips	WD_TR	2.74	3.06
tblVehicleTrips	WD_TR	1.29	4.10
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3356	2.0943	1.8242	2.9000e-003	0.0310	0.1204	0.1514	0.0124	0.1156	0.1280	0.0000	244.7071	244.7071	0.0471	0.0000	245.8857
2020	0.1832	6.7600e-003	7.6300e-003	1.0000e-005	3.0000e-005	4.4000e-004	4.8000e-004	1.0000e-005	4.4000e-004	4.5000e-004	0.0000	1.0578	1.0578	8.0000e-005	0.0000	1.0598
Maximum	**0.3356**	**2.0943**	**1.8242**	**2.9000e-003**	**0.0310**	**0.1204**	**0.1514**	**0.0124**	**0.1156**	**0.1280**	**0.0000**	**244.7071**	**244.7071**	**0.0471**	**0.0000**	**245.8857**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1202	1.2747	1.3500	2.9000e-003	0.0172	0.0109	0.0281	4.0600e-003	0.0109	0.0149	0.0000	182.5341	182.5341	0.0432	0.0000	183.6142

2020	0.1824	5.4500e-003	7.6300e-003	1.0000e-005	3.0000e-005	6.0000e-005	9.0000e-005	1.0000e-005	6.0000e-005	7.0000e-005	0.0000	1.0578	1.0578	8.0000e-005	0.0000	1.0598
Maximum	**0.1824**	**1.2747**	**1.3500**	**2.9000e-003**	**0.0172**	**0.0109**	**0.0281**	**4.0600e-003**	**0.0109**	**0.0149**	**0.0000**	**182.5341**	**182.5341**	**0.0432**	**0.0000**	**183.6142**

	ROG	NOx	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	**41.67**	**39.07**	**25.88**	**0.00**	**44.33**	**90.95**	**81.42**	**67.31**	**90.59**	**88.32**	**0.00**	**25.30**	**25.30**	**8.34**	**0.00**	**25.22**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	0.6698	0.3575
2	**4-1-2019**	**6-30-2019**	0.5766	0.3314
3	**7-1-2019**	**9-30-2019**	0.5830	0.3350
4	**10-1-2019**	**12-31-2019**	0.6082	0.3851
5	**1-1-2020**	**3-31-2020**	0.1696	0.1678
		Highest	0.6698	0.3851

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	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457
Energy	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	75.0678	75.0678	4.5700e-003	1.4700e-003	75.6193
Mobile	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303
Waste						0.0000	0.0000		0.0000	0.0000	17.2258	0.0000	17.2258	1.0180	0.0000	42.6762
Water						0.0000	0.0000		0.0000	0.0000	1.4120	4.4216	5.8336	5.3000e-003	3.1600e-003	6.9085
Total	**0.3688**	**0.9059**	**2.5814**	**7.3500e-003**	**0.6065**	**0.0111**	**0.6177**	**0.1628**	**0.0107**	**0.1735**	**18.6379**	**733.5238**	**752.1617**	**1.0531**	**4.6700e-003**	**779.8800**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457
Energy	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	75.0678	75.0678	4.5700e-003	1.4700e-003	75.6193
Mobile	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303
Waste						0.0000	0.0000		0.0000	0.0000	17.2258	0.0000	17.2258	1.0180	0.0000	42.6762
Water						0.0000	0.0000		0.0000	0.0000	1.4120	4.4216	5.8336	5.3000e-003	3.1600e-003	6.9085
Total	**0.3688**	**0.9059**	**2.5814**	**7.3500e-003**	**0.6065**	**0.0111**	**0.6177**	**0.1628**	**0.0107**	**0.1735**	**18.6379**	**733.5238**	**752.1617**	**1.0531**	**4.6700e-003**	**779.8800**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	1/31/2019	5	3	
3	Grading	Grading	2/1/2019	2/8/2019	5	6	
4	Building Construction	Building Construction	2/9/2019	12/13/2019	5	220	
5	Paving	Paving	12/14/2019	12/27/2019	5	10	
6	Architectural Coating	Architectural Coating	12/28/2019	1/10/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.55

Residential Indoor: 46,557; Residential Outdoor: 15,519; Non-Residential Indoor: 17,475; Non-Residential Outdoor: 5,825; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	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	5	13.00	0.00	27.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	54.00	12.00	302.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	40.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9600e-003	0.0000	2.9600e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**2.9600e-003**	**0.0129**	**0.0158**	**4.5000e-004**	**0.0120**	**0.0125**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.4600e-003	2.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.1748	0.1748	2.0000e-005	0.0000	0.1754
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	8.0000e-005	1.0000e-003	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1113	0.1113	1.0000e-005	0.0000	0.1114
Total	**2.0000e-004**	**1.5400e-003**	**1.2300e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.2861**	**0.2861**	**3.0000e-005**	**0.0000**	**0.2868**

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					1.3300e-003	0.0000	1.3300e-003	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.1210	0.1542	2.4000e-004		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**5.6200e-003**	**0.1210**	**0.1542**	**2.4000e-004**	**1.3300e-003**	**1.0800e-003**	**2.4100e-003**	**1.0000e-004**	**1.0800e-003**	**1.1800e-003**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.4600e-003	2.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.1748	0.1748	2.0000e-005	0.0000	0.1754
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	8.0000e-005	1.0000e-003	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1113	0.1113	1.0000e-005	0.0000	0.1114
Total	**2.0000e-004**	**1.5400e-003**	**1.2300e-003**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.2861**	**0.2861**	**3.0000e-005**	**0.0000**	**0.2868**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**2.3900e-003**	**1.2800e-003**	**3.6700e-003**	**2.6000e-004**	**1.1800e-003**	**1.4400e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0103	0.0103	0.0000	0.0000	0.0103

Total	**2.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0103**	**0.0103**	**0.0000**	**0.0000**	**0.0103**

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					1.0700e-003	0.0000	1.0700e-003	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	0.0178	0.0205	4.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**9.0000e-004**	**0.0178**	**0.0205**	**4.0000e-005**	**1.0700e-003**	**1.1000e-004**	**1.1800e-003**	**6.0000e-005**	**1.1000e-004**	**1.7000e-004**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0103	0.0103	0.0000	0.0000	0.0103
Total	**2.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0103**	**0.0103**	**0.0000**	**0.0000**	**0.0103**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**0.0197**	**3.2200e-003**	**0.0229**	**0.0101**	**2.9600e-003**	**0.0131**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	4.0000e-005	2.0000e-005	2.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0257	0.0257	0.0000	0.0000	0.0257
Total	**4.0000e-005**	**2.0000e-005**	**2.3000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0257**	**0.0257**	**0.0000**	**0.0000**	**0.0257**

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					8.8500e-003	0.0000	8.8500e-003	2.2700e-003	0.0000	2.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5100e-003	0.0307	0.0364	6.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**1.5100e-003**	**0.0307**	**0.0364**	**6.0000e-005**	**8.8500e-003**	**2.2000e-004**	**9.0700e-003**	**2.2700e-003**	**2.2000e-004**	**2.4900e-003**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	4.0000e-005	2.0000e-005	2.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0257	0.0257	0.0000	0.0000	0.0257
Total	**4.0000e-005**	**2.0000e-005**	**2.3000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0257**	**0.0257**	**0.0000**	**0.0000**	**0.0257**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2398	1.5846	1.4888	2.2800e-003		0.0989	0.0989		0.0956	0.0956	0.0000	187.9788	187.9788	0.0345	0.0000	188.8406
Total	**0.2398**	**1.5846**	**1.4888**	**2.2800e-003**		**0.0989**	**0.0989**		**0.0956**	**0.0956**	**0.0000**	**187.9788**	**187.9788**	**0.0345**	**0.0000**	**188.8406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0164	2.5200e-003	2.0000e-005	1.3000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	1.9551	1.9551	2.7000e-004	0.0000	1.9620
Vendor	2.9000e-003	0.0940	0.0261	1.1000e-004	1.2200e-003	2.4000e-004	1.4500e-003	3.6000e-004	2.3000e-004	5.8000e-004	0.0000	10.5842	10.5842	1.3400e-003	0.0000	10.6176
Worker	7.6800e-003	3.5900e-003	0.0459	6.0000e-005	4.4200e-003	6.0000e-005	4.4800e-003	1.1800e-003	6.0000e-005	1.2400e-003	0.0000	5.0848	5.0848	2.5000e-004	0.0000	5.0911
Total	**0.0110**	**0.1140**	**0.0745**	**1.9000e-004**	**5.7700e-003**	**3.2000e-004**	**6.0800e-003**	**1.5800e-003**	**3.1000e-004**	**1.8800e-003**	**0.0000**	**17.6242**	**17.6242**	**1.8600e-003**	**0.0000**	**17.6707**

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	0.0524	0.9419	0.9953	2.2800e-003		8.7300e-003	8.7300e-003		8.7300e-003	8.7300e-003	0.0000	125.8058	125.8058	0.0305	0.0000	126.5692
Total	**0.0524**	**0.9419**	**0.9953**	**2.2800e-003**		**8.7300e-003**	**8.7300e-003**		**8.7300e-003**	**8.7300e-003**	**0.0000**	**125.8058**	**125.8058**	**0.0305**	**0.0000**	**126.5692**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0164	2.5200e-003	2.0000e-005	1.3000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	1.9551	1.9551	2.7000e-004	0.0000	1.9620
Vendor	2.9000e-003	0.0940	0.0261	1.1000e-004	1.2200e-003	2.4000e-004	1.4500e-003	3.6000e-004	2.3000e-004	5.8000e-004	0.0000	10.5842	10.5842	1.3400e-003	0.0000	10.6176
Worker	7.6800e-003	3.5900e-003	0.0459	6.0000e-005	4.4200e-003	6.0000e-005	4.4800e-003	1.1800e-003	6.0000e-005	1.2400e-003	0.0000	5.0848	5.0848	2.5000e-004	0.0000	5.0911
Total	**0.0110**	**0.1140**	**0.0745**	**1.9000e-004**	**5.7700e-003**	**3.2000e-004**	**6.0800e-003**	**1.5800e-003**	**3.1000e-004**	**1.8800e-003**	**0.0000**	**17.6242**	**17.6242**	**1.8600e-003**	**0.0000**	**17.6707**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	7.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9500e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.1700e-003	3.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2590	0.2590	4.0000e-005	0.0000	0.2599
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-004	5.0000e-005	5.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0642	0.0642	0.0000	0.0000	0.0643

Total	**1.5000e-004**	**2.2200e-003**	**9.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**1.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3232**	**0.3232**	**4.0000e-005**	**0.0000**	**0.3241**

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	2.1000e-003	0.0443	0.0649	9.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	7.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.8200e-003**	**0.0443**	**0.0649**	**9.0000e-005**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.1700e-003	3.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2590	0.2590	4.0000e-005	0.0000	0.2599
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-004	5.0000e-005	5.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0642	0.0642	0.0000	0.0000	0.0643
Total	**1.5000e-004**	**2.2200e-003**	**9.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**1.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3232**	**0.3232**	**4.0000e-005**	**0.0000**	**0.3241**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0458**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	9.4200e-003	9.4200e-003	0.0000	0.0000	9.4300e-003
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**9.4200e-003**	**9.4200e-003**	**0.0000**	**0.0000**	**9.4300e-003**

Mitigated Construction On-Site

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

Archit. Coating	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0000e-005	1.3600e-003	1.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0456**	**1.3600e-003**	**1.8300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	9.4200e-003	9.4200e-003	0.0000	0.0000	9.4300e-003
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**9.4200e-003**	**9.4200e-003**	**0.0000**	**0.0000**	**9.4300e-003**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.1831**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

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-005	2.0000e-005	3.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0365	0.0365	0.0000	0.0000	0.0365
Total	**5.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0365**	**0.0365**	**0.0000**	**0.0000**	**0.0365**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4000e-004	5.4300e-003	7.3300e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.1824**	**5.4300e-003**	**7.3300e-003**	**1.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

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-005	2.0000e-005	3.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0365	0.0365	0.0000	0.0000	0.0365
Total	**5.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0365**	**0.0365**	**0.0000**	**0.0000**	**0.0365**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303
Unmitigated	0.1929	0.8674	2.1584	7.1200e-003	0.6065	6.2100e-003	0.6128	0.1628	5.8100e-003	0.1686	0.0000	651.2177	651.2177	0.0245	0.0000	651.8303

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	165.24	132.84	146.88	364,892	364,892
Elementary School	799.50	0.00	0.00	1,259,178	1,259,178
Parking Lot	0.00	0.00	0.00		
Total	964.74	132.84	146.88	1,624,069	1,624,069

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
Congregate Care (Assisted Living)	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.001810	0.005454	0.002746	0.000871
Elementary School	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.001810	0.005454	0.002746	0.000871
Parking Lot	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.001810	0.005454	0.002746	0.000871

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	38.7081	38.7081	3.8700e-003	8.0000e-004	39.0435
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	38.7081	38.7081	3.8700e-003	8.0000e-004	39.0435
NaturalGas Mitigated	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	36.3598	36.3598	7.0000e-004	6.7000e-004	36.5758
NaturalGas Unmitigated	3.6700e-003	0.0320	0.0180	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003	0.0000	36.3598	36.3598	7.0000e-004	6.7000e-004	36.5758

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					
Congregate Care (Assisted Living)	466530	2.5200e-003	0.0215	9.1500e-003	1.4000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	24.8958	24.8958	4.8000e-004	4.6000e-004	25.0438
Elementary School	214826	1.1600e-003	0.0105	8.8500e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4639	11.4639	2.2000e-004	2.1000e-004	11.5321
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.6800e-003**	**0.0320**	**0.0180**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**	**0.0000**	**36.3598**	**36.3598**	**7.0000e-004**	**6.7000e-004**	**36.5758**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Congregate Care (Assisted Living)	466530	2.5200e-003	0.0215	9.1500e-003	1.4000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	24.8958	24.8958	4.8000e-004	4.6000e-004	25.0438
Elementary School	214826	1.1600e-003	0.0105	8.8500e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4639	11.4639	2.2000e-004	2.1000e-004	11.5321
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.6800e-003**	**0.0320**	**0.0180**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**	**0.0000**	**36.3598**	**36.3598**	**7.0000e-004**	**6.7000e-004**	**36.5758**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	222931	29.3247	2.9300e-003	6.1000e-004	29.5788
Elementary School	62793.5	8.2600	8.3000e-004	1.7000e-004	8.3316
Parking Lot	8540	1.1234	1.1000e-004	2.0000e-005	1.1331
Total		**38.7081**	**3.8700e-003**	**8.0000e-004**	**39.0435**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	222931	29.3247	2.9300e-003	6.1000e-004	29.5788
Elementary School	62793.5	8.2600	8.3000e-004	1.7000e-004	8.3316
Parking Lot	8540	1.1234	1.1000e-004	2.0000e-005	1.1331
Total		**38.7081**	**3.8700e-003**	**8.0000e-004**	**39.0435**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457
Unmitigated	0.1723	6.5200e-003	0.4050	3.0000e-005		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	2.8168	2.8168	6.9000e-004	4.0000e-005	2.8457

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	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2000e-004	1.8600e-003	7.9000e-004	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1572	2.1572	4.0000e-005	4.0000e-005	2.1700
Landscaping	0.0124	4.6600e-003	0.4042	2.0000e-005		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	0.6595	0.6595	6.5000e-004	0.0000	0.6757
Total	**0.1723**	**6.5200e-003**	**0.4050**	**3.0000e-005**		**2.3700e-003**	**2.3700e-003**		**2.3700e-003**	**2.3700e-003**	**0.0000**	**2.8168**	**2.8168**	**6.9000e-004**	**4.0000e-005**	**2.8457**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	0.1369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2000e-004	1.8600e-003	7.9000e-004	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1572	2.1572	4.0000e-005	4.0000e-005	2.1700
Landscaping	0.0124	4.6600e-003	0.4042	2.0000e-005		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	0.6595	0.6595	6.5000e-004	0.0000	0.6757
Total	**0.1723**	**6.5200e-003**	**0.4050**	**3.0000e-005**		**2.3700e-003**	**2.3700e-003**		**2.3700e-003**	**2.3700e-003**	**0.0000**	**2.8168**	**2.8168**	**6.9000e-004**	**4.0000e-005**	**2.8457**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.8336	5.3000e-003	3.1600e-003	6.9085
Unmitigated	5.8336	5.3000e-003	3.1600e-003	6.9085

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	3.51832 / 2.21807	4.7702	4.6400e-003	2.7800e-003	5.7146
Elementary School	0.472727 / 1.21558	1.0634	6.7000e-004	3.8000e-004	1.1939

Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.8336**	**5.3100e-003**	**3.1600e-003**	**6.9085**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	3.51832 / 2.21807	4.7702	4.6400e-003	2.7800e-003	5.7146
Elementary School	0.472727 / 1.21558	1.0634	6.7000e-004	3.8000e-004	1.1939
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.8336**	**5.3100e-003**	**3.1600e-003**	**6.9085**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.2258	1.0180	0.0000	42.6762
Unmitigated	17.2258	1.0180	0.0000	42.6762

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	49.27	10.0014	0.5911	0.0000	24.7780
Elementary School	35.59	7.2245	0.4270	0.0000	17.8983
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**17.2258**	**1.0180**	**0.0000**	**42.6762**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	49.27	10.0014	0.5911	0.0000	24.7780
Elementary School	35.59	7.2245	0.4270	0.0000	17.8983
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**17.2258**	**1.0180**	**0.0000**	**42.6762**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

tblProjectCharacteristics

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency
18-018 Church of the Valley San Ramon, School & Memory Care	C	CC	2.2	58

tblProjectCharacteristics

ClimateZone	UrbanizationLevel	OperationalYear	UtilityCompany	CO2IntensityFactor	CH4IntensityFactor
4	Urban	2021	Pacific Gas & Electric Company	290	0.029

tblProjectCharacteristics

N2OIntensityFactor	TotalPopulation	TotalLotAcreage	UsingHistoricalEnergyUseData	ConstructionPhaseStartDate
0.006	154	2.95	0	2019/01/01

tblPollutants

PollutantSelection	PollutantFullName	PollutantName
1	Reactive Organic Gases (ROG)	ROG
1	Nitrogen Oxides (NOx)	NOX
1	Carbon Monoxide (CO)	CO
1	Sulfur Dioxide (SO2)	SO2
1	Particulate Matter 10um (PM10)	PM10
1	Particulate Matter 2.5um (PM2.5)	PM2_5
1	Fugitive PM10um (PM10)	PM10_FUG
1	Fugitive PM2.5um (PM2.5)	PM25_FUG
1	Biogenic Carbon Dioxide (CO2)	CO2_BIO
1	Non-Biogenic Carbon Dioxide (CO2)	CO2_NBIO
1	Carbon Dioxide (CO2)	CO2
1	Methane (CH4)	CH4
1	Nitrous Oxide (N2O)	N2O
1	CO2 Equivalent GHGs (CO2e)	CO2E

tblLandUse

LandUseType	LandUseSubType	LandUseUnitAmount	LandUseSizeMetric
Educational	Elementary School	195	Student
Parking	Parking Lot	61	Space
Residential	Congregate Care (Assisted Living)	54	Dwelling Unit

tblLandUse

LotAcreage	LandUseSquareFeet	Population	BuildingSpaceSquareFeet	GreenSpaceAllowEdit
0.87	11650	0	16302.66	0
0.55	24400	0	24400	0
1.53	22991	154	54000	0

RecSwimmingAreaAllowEdit
0
0
0

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate
1	Demolition	Demolition	2019/01/01	2019/01/28
2	Site Preparation	Site Preparation	2019/01/29	2019/01/31
3	Grading	Grading	2019/02/01	2019/02/08
4	Building Construction	Building Construction	2019/02/09	2019/12/13
5	Paving	Paving	2019/12/14	2019/12/27
6	Architectural Coating	Architectural Coating	2019/12/28	2020/01/10

tblConstructionPhase

NumDaysWeek	NumDays	PhaseDescription
5	20	
5	3	
5	6	
5	220	
5	10	
5	10	

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours
Demolition	Concrete/Industrial Saws	1	8
Demolition	Rubber Tired Dozers	1	8
Demolition	Tractors/Loaders/Backhoes	3	8
Site Preparation	Graders	1	8
Site Preparation	Scrapers	1	8
Site Preparation	Tractors/Loaders/Backhoes	1	7
Grading	Graders	1	8
Grading	Rubber Tired Dozers	1	8
Grading	Tractors/Loaders/Backhoes	2	7
Building Construction	Cranes	1	2
Building Construction	Forklifts	2	7
Building Construction	Generator Sets	1	8
Building Construction	Tractors/Loaders/Backhoes	1	6
Building Construction	Welders	3	8
Paving	Cement and Mortar Mixers	1	8
Paving	Pavers	1	8
Paving	Paving Equipment	1	8
Paving	Rollers	2	8
Paving	Tractors/Loaders/Backhoes	1	8
Architectural Coating	Air Compressors	1	6

HorsePower	LoadFactor
81	0.73
247	0.4
97	0.37
187	0.41
367	0.48
97	0.37
187	0.41
247	0.4
97	0.37
231	0.29
89	0.2
84	0.74
97	0.37
46	0.45
9	0.56
130	0.42
132	0.36
80	0.38
97	0.37
78	0.48

tblTripsAndVMT

PhaseName	WorkerTripNumber	VendorTripNumber	HaulingTripNumber	WorkerTripLength
Demolition	13	0	27	10.8
Site Preparation	8	0	0	10.8
Grading	10	0	0	10.8
Building Construction	54	12	302	10.8
Paving	15	0	40	10.8
Architectural Coating	11	0	0	10.8

VendorTripLength	HaulingTripLength	WorkerVehicleClass	VendorVehicleClass
7.3	20	LD_Mix	HDT_Mix
7.3	20	LD_Mix	HDT_Mix
7.3	20	LD_Mix	HDT_Mix
7.3	20	LD_Mix	HDT_Mix
7.3	20	LD_Mix	HDT_Mix
7.3	20	LD_Mix	HDT_Mix

HaulingVehicleClass
HHDT
HHDT
HHDT
HHDT
HHDT
HHDT

tblOnRoadDust

PhaseName	WorkerPercentPave	VendorPercentPave	HaulingPercentPave
Demolition	100	100	100
Site Preparation	100	100	100
Grading	100	100	100
Building Construction	100	100	100
Paving	100	100	100
Architectural Coating	100	100	100

tblOnRoadDust

RoadSiltLoading	MaterialSiltContent	MaterialMoistureContent	AverageVehicleWeight
0.1	8.5	0.5	2.4
0.1	8.5	0.5	2.4
0.1	8.5	0.5	2.4
0.1	8.5	0.5	2.4
0.1	8.5	0.5	2.4
0.1	8.5	0.5	2.4

MeanVehicleSpeed
40
40
40
40
40
40

tblDemolition

PhaseName	DemolitionSizeMetric	DemolitionUnitAmount
Demolition	Ton of Debris	277

tblGrading

PhaseName	MaterialImported	MaterialExported	GradingSizeMetric	ImportExportPhased
Site Preparation	0	0		0
Grading	0	0		0

MeanVehicleSpeed	AcresOfGrading	MaterialMoistureContentBulldozing
7.1	4.5	7.9
7.1	3	7.9

MaterialMoistureContentTruckLoading	MaterialSiltContent
12	6.9
12	6.9

tblArchitecturalCoating

PhaseName	ArchitecturalCoatingStartDate	ArchitecturalCoatingEndDate
Architectural Coating	2012/01/01	3000/12/31

EF_Residential_Interior	ConstArea_Residential_Interior	EF_Residential_Exterior
100	46557	150

ConstArea_Residential_Exterior	EF_Nonresidential_Interior	ConstArea_Nonresidential_Interior
15519	100	17475

EF_Nonresidential_Exterior	ConstArea_Nonresidential_Exterior	EF_Parking	ConstArea_Parking
150	5825	150	1464

ParkingLotAcreage

tblVehicleTrips

VehicleTripsLandUseSubType	VehicleTripsLandUseSizeMetric	WD_TR	ST_TR	SU_TR
Congregate Care (Assisted Living)	Dwelling Unit	3.06	2.46	2.72
Elementary School	Student	4.1	0	0
Parking Lot	Space	0	0	0

HW_TL	HS_TL	HO_TL	CC_TL	CW_TL	CNW_TL	PR_TP	DV_TP	PB_TP	HW_TTP	HS_TTP
10.8	4.8	5.7	0	0	0	86	11	3	31	15
0	0	0	7.3	9.5	7.3	63	25	12	0	0
0	0	0	7.3	9.5	7.3	0	0	0	0	0

HO_TTP	CC_TTP	CW_TTP	CNW_TTP
54	0	0	0
0	30	65	5
0	0	0	0

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1
A	CH4_IDLEX	0	0	0	0	0.005584
A	CH4_RUNEX	0.004482	0.009812	0.005698	0.011728	0.02079
A	CH4_STREX	0.006808	0.016299	0.008279	0.020697	0.02101
A	CO_IDLEX	0	0	0	0	0.14797
A	CO_RUNEX	0.589305	1.186136	0.732028	1.310792	1.210711
A	CO_STREX	1.412618	3.217925	1.753258	3.57868	2.715668
A	CO2_NBIO_IDLEX	0	0	0	0	9.172001
A	CO2_NBIO_RUNEX	261.268703	320.677203	363.00911	490.72722	702.13065
A	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357
A	NOX_IDLEX	0	0	0	0	0.084552
A	NOX_RUNEX	0.055456	0.122596	0.080788	0.16646	1.749442
A	NOX_STREX	0.087296	0.184398	0.142917	0.328272	1.045343
A	PM10_IDLEX	0	0	0	0	0.000958
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073
A	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491
A	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974
A	PM25_IDLEX	0	0	0	0	0.000917
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518
A	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601
A	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895
A	ROG_DIURN	0.03439	0.097902	0.041258	0.06451	0.00242
A	ROG_HTSK	0.111408	0.268903	0.120514	0.194299	0.102267
A	ROG_IDLEX	0	0	0	0	0.017216
A	ROG_RESTL	0.032225	0.084861	0.042436	0.067776	0.001346
A	ROG_RUNEX	0.011346	0.02449	0.014152	0.03227	0.14161
A	ROG_RUNLS	0.039739	0.168764	0.065911	0.106023	0.317501
A	ROG_STREX	0.091815	0.219825	0.11165	0.279234	0.283348
A	SO2_IDLEX	0	0	0	0	0.000092
A	SO2_RUNEX	0.002616	0.00322	0.003635	0.004917	0.006893
A	SO2_STREX	0.000618	0.000787	0.000858	0.001166	0.000367
A	TOG_DIURN	0.03439	0.097902	0.041258	0.06451	0.00242
A	TOG_HTSK	0.111408	0.268903	0.120514	0.194299	0.102267
A	TOG_IDLEX	0	0	0	0	0.023891
A	TOG_RESTL	0.032225	0.084861	0.042436	0.067776	0.001346
A	TOG_RUNEX	0.01646	0.03565	0.02063	0.045676	0.173961
A	TOG_RUNLS	0.039739	0.168764	0.065911	0.106023	0.317501
A	TOG_STREX	0.100523	0.240674	0.122241	0.305659	0.310231
S	CH4_IDLEX	0	0	0	0	0.005584
S	CH4_RUNEX	0.005085	0.011015	0.006456	0.013215	0.0215
S	CH4_STREX	0.005473	0.013019	0.006665	0.016646	0.019595
S	CO_IDLEX	0	0	0	0	0.14797
S	CO_RUNEX	0.71677	1.410461	0.886542	1.562726	1.239887
S	CO_STREX	1.081461	2.439606	1.343365	2.752486	2.483678
S	CO2_NBIO_IDLEX	0	0	0	0	9.172001
S	CO2_NBIO_RUNEX	285.724042	349.479849	396.237687	534.390989	702.13065
S	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357
S	NOX_IDLEX	0	0	0	0	0.084552
S	NOX_RUNEX	0.050052	0.109339	0.07268	0.149485	1.672409

S	NOX_STREX	0.076796	0.162201	0.125737	0.288851	0.96768
S	PM10_IDLEX	0	0	0	0	0.000958
S	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644
S	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073
S	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491
S	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974
S	PM25_IDLEX	0	0	0	0	0.000917
S	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276
S	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518
S	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601
S	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895
S	ROG_DIURN	0.08969	0.258512	0.105861	0.163947	0.006218
S	ROG_HTSK	0.128217	0.319926	0.137787	0.218174	0.118048
S	ROG_IDLEX	0	0	0	0	0.017216
S	ROG_RESTL	0.074749	0.198922	0.096552	0.152726	0.003159
S	ROG_RUNEX	0.012844	0.027478	0.01603	0.035726	0.143366
S	ROG_RUNLS	0.037772	0.158208	0.061893	0.099977	0.309737
S	ROG_STREX	0.073809	0.175583	0.089893	0.224583	0.264261
S	SO2_IDLEX	0	0	0	0	0.000092
S	SO2_RUNEX	0.002863	0.003512	0.003969	0.005356	0.006893
S	SO2_STREX	0.000612	0.000773	0.000851	0.001151	0.000363
S	TOG_DIURN	0.08969	0.258512	0.105861	0.163947	0.006218
S	TOG_HTSK	0.128217	0.319926	0.137787	0.218174	0.118048
S	TOG_IDLEX	0	0	0	0	0.023891
S	TOG_RESTL	0.074749	0.198922	0.096552	0.152726	0.003159
S	TOG_RUNEX	0.018644	0.040006	0.023369	0.050819	0.176523
S	TOG_RUNLS	0.037772	0.158208	0.061893	0.099977	0.309737
S	TOG_STREX	0.08081	0.192236	0.09842	0.245837	0.289332
W	CH4_IDLEX	0	0	0	0	0.005584
W	CH4_RUNEX	0.004365	0.009625	0.005538	0.011458	0.020233
W	CH4_STREX	0.007803	0.018781	0.009471	0.023726	0.022241
W	CO_IDLEX	0	0	0	0	0.14797
W	CO_RUNEX	0.579082	1.173222	0.719483	1.303232	1.188156
W	CO_STREX	1.679629	3.847166	2.082919	4.249818	2.94066
W	CO2_NBIO_IDLEX	0	0	0	0	9.172001
W	CO2_NBIO_RUNEX	257.917934	316.730783	358.456268	484.744591	702.13065
W	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357
W	NOX_IDLEX	0	0	0	0	0.084552
W	NOX_RUNEX	0.061137	0.135574	0.089224	0.183742	1.78601
W	NOX_STREX	0.096076	0.202842	0.157287	0.361206	1.115633
W	PM10_IDLEX	0	0	0	0	0.000958
W	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644
W	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073
W	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491
W	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974
W	PM25_IDLEX	0	0	0	0	0.000917
W	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276
W	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518
W	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601
W	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895
W	ROG_DIURN	0.011533	0.030704	0.015053	0.024102	0.000822

W	ROG_HTSK	0.115517	0.285544	0.124349	0.199833	0.112223
W	ROG_IDLEX	0	0	0	0	0.017216
W	ROG_RESTL	0.014038	0.03663	0.018764	0.030171	0.000586
W	ROG_RUNEX	0.011062	0.024041	0.013757	0.031927	0.140231
W	ROG_RUNLS	0.046523	0.206769	0.080003	0.127715	0.352443
W	ROG_STREX	0.105237	0.253298	0.127735	0.320109	0.299946
W	SO2_IDLEX	0	0	0	0	0.000092
W	SO2_RUNEX	0.002583	0.003181	0.00359	0.004857	0.006892
W	SO2_STREX	0.000622	0.000798	0.000864	0.001178	0.000371
W	TOG_DIURN	0.011533	0.030704	0.015053	0.024102	0.000822
W	TOG_HTSK	0.115517	0.285544	0.124349	0.199833	0.112223
W	TOG_IDLEX	0	0	0	0	0.023891
W	TOG_RESTL	0.014038	0.03663	0.018764	0.030171	0.000586
W	TOG_RUNEX	0.016044	0.034989	0.020053	0.045032	0.171949
W	TOG_RUNLS	0.046523	0.206769	0.080003	0.127715	0.352443
W	TOG_STREX	0.115218	0.277321	0.139852	0.350398	0.328403

LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS
0.003604	0.016827	0.620085	0.012516	0	0	0.927457
0.008978	0.007299	0.045	0.013444	0.23172	0.444966	0.006865
0.00811	0.058591	0.117678	0.031576	0.074129	0.167091	0.064414
0.121893	0.403318	2.56111	0.269766	0	0	1.996509
0.658676	0.502977	0.921269	0.811727	4.477915	20.928313	0.424116
1.21943	7.3272	2.990106	6.419527	12.365266	10.154455	1.226024
14.388616	137.219467	4622.541296	77.54154	0	0	1470.09661
719.215263	1207.937319	1632.587763	1299.494909	1992.711484	171.863895	1256.670952
23.446982	62.077272	8.731573	69.853005	151.44869	46.886292	8.752244
0.116517	0.599808	21.388417	0.374721	0	0	15.943637
1.197215	1.628395	3.991097	1.538475	7.132497	1.171469	6.101011
0.499662	10.363477	19.83416	2.354509	12.358263	0.321253	19.47855
0.001348	0.000891	0.019967	0.000129	0	0	0.017303
0.08918	0.13034	0.060614	0.13034	0.49144	0.01176	0.7448
0.010789	0.012	0.035216	0.012	0.012	0.004	0.011768
0.017416	0.007354	0.01809	0.007002	0.139014	0.002017	0.034408
0.000409	0.001017	0.000101	0.000782	0.001177	0.004268	0.000138
0.00129	0.000853	0.019103	0.000124	0	0	0.016555
0.03822	0.05586	0.025978	0.05586	0.210617	0.00504	0.3192
0.002697	0.003	0.008804	0.003	0.003	0.001	0.002942
0.01664	0.007029	0.017308	0.006676	0.132965	0.001891	0.032917
0.000376	0.000935	0.000092	0.000719	0.001082	0.004034	0.000126
0.000787	0.001029	0.000093	0.00113	0.004787	0.890733	0.000331
0.032761	0.048981	0.005184	0.018363	0.09119	0.790359	0.003378
0.013934	0.028988	0.659135	0.036563	0	0	0.2359
0.000463	0.000565	0.00006	0.000554	0.002528	0.569283	0.000157
0.118459	0.063664	0.136852	0.072447	0.479665	2.343084	0.12455
0.070668	0.026972	0.000452	0.039594	0.020877	0.659598	0.001553
0.109368	0.437345	0.09983	0.400094	0.999709	2.280984	0.061856
0.00014	0.001322	0.043481	0.000752	0	0	0.014071
0.006991	0.011609	0.015345	0.012733	0.018221	0.002128	0.012007
0.000257	0.000749	0.000137	0.000811	0.001739	0.000702	0.000109
0.000787	0.001029	0.000093	0.00113	0.004787	0.890733	0.000331
0.032761	0.048981	0.005184	0.018363	0.09119	0.790359	0.003378
0.018516	0.040146	0.758837	0.050648	0	0	0.31796
0.000463	0.000565	0.00006	0.000554	0.002528	0.569283	0.000157
0.137975	0.07637	0.194568	0.091516	0.75107	2.873049	0.142759
0.070668	0.026972	0.000452	0.039594	0.020877	0.659598	0.001553
0.119744	0.478838	0.109301	0.438053	1.094556	2.481275	0.067724
0.003604	0.015637	0.584797	0.012492	0	0	0.924381
0.009131	0.007495	0.045056	0.013867	0.235534	0.429218	0.006912
0.007599	0.054539	0.109452	0.029259	0.063906	0.13633	0.052173
0.121893	0.279854	1.865192	0.259608	0	0	1.796842
0.665097	0.513856	0.930041	0.83543	4.555758	20.102753	0.426658
1.120398	6.669843	2.720622	5.774077	9.650039	8.869765	0.845571
14.388616	145.510867	4895.398446	81.13072	0	0	1554.872739
719.215263	1207.937319	1632.587763	1299.494909	1992.711484	171.863895	1256.670952
23.446982	62.077272	8.731573	69.853005	151.44869	46.886292	8.752244
0.116517	0.619123	22.071313	0.386698	0	0	16.456091
1.149924	1.561305	3.844747	1.46606	6.825237	1.024038	5.864339

0.465701	10.285767	19.814154	2.272242	12.22338	0.291363	19.47117
0.001348	0.000751	0.017167	0.000109	0	0	0.014587
0.08918	0.13034	0.060614	0.13034	0.49144	0.01176	0.7448
0.010789	0.012	0.035216	0.012	0.012	0.004	0.011768
0.017416	0.007354	0.01809	0.007002	0.139014	0.002017	0.034408
0.000409	0.001017	0.000101	0.000782	0.001177	0.004268	0.000138
0.00129	0.000719	0.016425	0.000104	0	0	0.013956
0.03822	0.05586	0.025978	0.05586	0.210617	0.00504	0.3192
0.002697	0.003	0.008804	0.003	0.003	0.001	0.002942
0.01664	0.007029	0.017308	0.006676	0.132965	0.001891	0.032917
0.000376	0.000935	0.000092	0.000719	0.001082	0.004034	0.000126
0.002008	0.002751	0.000257	0.002796	0.012224	2.637733	0.000833
0.03772	0.057461	0.005801	0.019948	0.106087	1.108912	0.003586
0.013934	0.027017	0.621749	0.036077	0	0	0.231184
0.001082	0.001427	0.00016	0.001303	0.005953	1.755431	0.000378
0.118836	0.064149	0.13699	0.073494	0.489106	2.240304	0.124666
0.068893	0.026342	0.00045	0.038627	0.019308	0.62564	0.001336
0.102475	0.407101	0.092852	0.370737	0.861848	1.860862	0.0501
0.00014	0.0014	0.046048	0.000786	0	0	0.01488
0.006991	0.011609	0.015345	0.012733	0.018223	0.002112	0.012007
0.000255	0.000738	0.000133	0.0008	0.001692	0.000668	0.000102
0.002008	0.002751	0.000257	0.002796	0.012224	2.637733	0.000833
0.03772	0.057461	0.005801	0.019948	0.106087	1.108912	0.003586
0.018516	0.037394	0.715788	0.050095	0	0	0.312591
0.001082	0.001427	0.00016	0.001303	0.005953	1.755431	0.000378
0.138526	0.077079	0.194769	0.093043	0.764846	2.751124	0.142928
0.068893	0.026342	0.00045	0.038627	0.019308	0.62564	0.001336
0.112197	0.445724	0.101661	0.405911	0.943616	2.024382	0.054854
0.003604	0.018028	0.668816	0.012549	0	0	0.931705
0.008856	0.007146	0.044958	0.01311	0.229022	0.464618	0.006829
0.008549	0.062132	0.125042	0.033345	0.082711	0.197164	0.073227
0.121893	0.531697	3.52214	0.283793	0	0	2.27224
0.653692	0.494683	0.914669	0.793555	4.42118	22.905848	0.422215
1.313745	7.957721	3.251309	6.94427	14.826625	11.679387	1.531758
14.388616	126.14458	4245.738565	72.585052	0	0	1353.024812
719.215263	1207.937319	1632.587763	1299.494909	1992.711484	171.863895	1256.670952
23.446982	62.077272	8.731573	69.853005	151.44869	46.886292	8.752244
0.116517	0.573167	20.445369	0.35818	0	0	15.235963
1.218233	1.65776	4.055616	1.573452	7.26295	1.263414	6.198108
0.530496	10.433746	19.852248	2.428774	12.471004	0.346215	19.484213
0.001348	0.001084	0.023833	0.000157	0	0	0.021055
0.08918	0.13034	0.060614	0.13034	0.49144	0.01176	0.7448
0.010789	0.012	0.035216	0.012	0.012	0.004	0.011768
0.017416	0.007354	0.01809	0.007002	0.139014	0.002017	0.034408
0.000409	0.001017	0.000101	0.000782	0.001177	0.004268	0.000138
0.00129	0.001038	0.022802	0.00015	0	0	0.020144
0.03822	0.05586	0.025978	0.05586	0.210617	0.00504	0.3192
0.002697	0.003	0.008804	0.003	0.003	0.001	0.002942
0.01664	0.007029	0.017308	0.006676	0.132965	0.001891	0.032917
0.000376	0.000935	0.000092	0.000719	0.001082	0.004034	0.000126
0.000285	0.000323	0.000032	0.000484	0.001671	0.170614	0.000135

0.035042	0.05151	0.005516	0.018662	0.104044	0.920025	0.003506
0.013934	0.031107	0.710764	0.037233	0	0	0.242412
0.000206	0.000227	0.000023	0.00026	0.001117	0.169538	0.000072
0.118157	0.063286	0.136748	0.071623	0.472989	2.466197	0.124461
0.078736	0.030413	0.000497	0.043351	0.025729	0.774719	0.001982
0.115288	0.463779	0.106077	0.422507	1.115451	2.69179	0.070318
0.00014	0.001218	0.039937	0.000705	0	0	0.012954
0.006991	0.011609	0.015345	0.012733	0.01822	0.002164	0.012007
0.000258	0.00076	0.000142	0.00082	0.001781	0.00074	0.000114
0.000285	0.000323	0.000032	0.000484	0.001671	0.170614	0.000135
0.035042	0.05151	0.005516	0.018662	0.104044	0.920025	0.003506
0.018516	0.043067	0.818284	0.051411	0	0	0.325374
0.000206	0.000227	0.000023	0.00026	0.001117	0.169538	0.000072
0.137534	0.07582	0.194415	0.090312	0.741328	3.019951	0.142629
0.078736	0.030413	0.000497	0.043351	0.025729	0.774719	0.001982
0.126226	0.50778	0.116141	0.462592	1.221278	2.927996	0.07699

MH
0
0.035336
0.026847
0
2.46589
6.176387
0
1227.102359
59.137886
0
1.619364
0.900528
0
0.13034
0.012902
0.032363
0.001147
0
0.05586
0.003225
0.030906
0.001054
0.845151
0.076624
0
0.322154
0.113589
0.020083
0.36206
0
0.012187
0.000699
0.845151
0.076624
0
0.322154
0.156274
0.020083
0.396411
0
0.037406
0.024768
0
2.586368
5.523668
0
1227.102359
59.137886
0
1.521677

0.832256
0
0.13034
0.012902
0.032363
0.001147
0
0.05586
0.003225
0.030906
0.001054
2.185759
0.08745
0
0.786903
0.118712
0.019658
0.334028
0
0.012189
0.000688
2.185759
0.08745
0
0.786903
0.16375
0.019658
0.365719
0
0.033816
0.028516
0
2.376958
6.737043
0
1227.102359
59.137886
0
1.671779
0.962104
0
0.13034
0.012902
0.032363
0.001147
0
0.05586
0.003225
0.030906
0.001054
0.26743

0.089714
0
0.136806
0.109829
0.021577
0.384576
0
0.012185
0.000709
0.26743
0.089714
0
0.136806
0.150788
0.021577
0.421062

tblRoadDust

RoadPercentPave	RoadSiltLoading	MaterialSiltContent	MaterialMoistureContent
100	0.1	4.3	0.5

MobileAverageVehicleWeight	MeanVehicleSpeed	CARB_PM_VMT
2.4	40	0

tblWoodstoves

WoodstovesLandUseSubType	NumberConventional	NumberCatalytic	NumberNoncatalytic
Congregate Care (Assisted Living)	0	1.08	1.08

tblWoodstoves

NumberPellet	WoodstoveDayYear	WoodstoveWoodMass
0	14.12	0

tblFireplaces

FireplacesLandUseSubType	NumberWood	NumberGas	NumberPropane	NumberNoFireplace
Congregate Care (Assisted Living)	0	17.28	0	2.16

tblFireplaces

FireplaceHourDay	FireplaceDayYear	FireplaceWoodMass
3.5	11.14	0

ROG_EF	ROG_EF_Degreaser	ROG_EF_PesticidesFertilizers
0.0000214	3.542E-07	5.152E-08

Area_EF_Residential_Interior	Area_Residential_Interior	Area_EF_Residential_Exterior
100	46557	150

Area_Residential_Exterior	Area_EF_Nonresidential_Interior	Area_Nonresidential_Interior
15519	100	17475

Area_EF_Nonresidential_Exterior	Area_Nonresidential_Exterior	ReapplicationRatePercent
150	5825	10

Area_EF_Parking	Area_Parking
150	1464

NumberSnowDays	NumberSummerDays
0	180

tblEnergyUse

EnergyUseLandUseSubType	T24E	NT24E	LightingElect	T24NG	NT24NG
Congregate Care (Assisted Living)	332.81	3054.1	741.44	5484.45	3155
Elementary School	1.56	1.28	2.55	17.51	0.93
Parking Lot	0	0	0.35	0	0

tblWater

WaterLandUseSubType	WaterLandUseSizeMetric	IndoorWaterUseRate
Congregate Care (Assisted Living)	Dwelling Unit	3518317.38
Elementary School	Student	472726.8
Parking Lot	Space	0

OutdoorWaterUseRate	ElectricityIntensityFactorToSupply	ElectricityIntensityFactorToTreat
2218069.65	2117	111
1215583.2	2117	111
0	2117	111

ElectricityIntensityFactorToDistribute	ElectricityIntensityFactorForWastewaterTreatment
1272	1911
1272	1911
1272	1911

SepticTankPercent	AerobicPercent	AnaerobicandFacultativeLagoonsPercent
0	100	0
0	100	0
0	100	0

AnaDigestCombDigestGasPercent	AnaDigestCogenCombDigestGasPercent
100	0
100	0
100	0

tblSolidWaste

SolidWasteLandUseSubType	SolidWasteLandUseSizeMetric	SolidWasteGenerationRate
Congregate Care (Assisted Living)	Dwelling Unit	49.27
Elementary School	Student	35.59
Parking Lot	Space	0

LandfillNoGasCapture	LandfillCaptureGasFlare	LandfillCaptureGasEnergyRecovery
6	94	0
6	94	0
6	94	0

tblLandUseChange

VegetationLandUseType	VegetationLandUseSubType	AcresBegin	AcresEnd	CO2peracre

tblSequestration

BroadSpeciesClass	NumberOfNewTrees	CO2perTree

tblConstEquipMitigation

ConstMitigationEquipmentType	FuelType	Tier	NumberOfEquipmentMitigated
Air Compressors	Diesel	No Change	0
Cement and Mortar Mixers	Diesel	No Change	0
Concrete/Industrial Saws	Diesel	No Change	0
Cranes	Diesel	No Change	0
Forklifts	Diesel	No Change	0
Generator Sets	Electrical	No Change	1
Graders	Diesel	No Change	0
Pavers	Diesel	No Change	0
Paving Equipment	Diesel	No Change	0
Rollers	Diesel	No Change	0
Rubber Tired Dozers	Diesel	No Change	0
Scrapers	Diesel	No Change	0
Tractors/Loaders/Backhoes	Diesel	No Change	0
Welders	Diesel	No Change	0

tblConstEquipMitigation

TotalNumberOfEquipmentMitigated	DPF	OxidationCatalyst
1	No Change	0
1	No Change	0
1	No Change	0
1	No Change	0
2	No Change	0
1	No Change	0
2	No Change	0
1	No Change	0
1	No Change	0
2	No Change	0
2	No Change	0
1	No Change	0
8	No Change	0
3	No Change	0

SoilStabilizerCheck	SoilStabilizerPM10PercentReduction	SoilStabilizerPM25PercentReduction
0	0	0

ReplaceGroundCoverCheck	ReplaceGroundCoverPM10PercentReduction
0	0

ReplaceGroundCoverPM25PercentReduction	WaterExposedAreaCheck
0	0

WaterExposedAreaFrequency	WaterExposedAreaPM10PercentReduction
	0

tblConstDustMitigation

WaterExposedAreaPM25PercentReduction	WaterUnpavedRoadMoistureContentCheck
0	0

tblConstDustMitigation

WaterUnpavedRoadVehicleSpeedCheck	WaterUnpavedRoadMoistureContent
0	0

tblConstDustMitigation

WaterUnpavedRoadVehicleSpeed	CleanPavedRoadPercentReduction
0	0

ProjectSetting	IncreaseDensityCheck	IncreaseDensityDUPerAcre	IncreaseDensityJobPerAcre

IncreaseDiversityCheck	ImproveWalkabilityDesignCheck	ImproveWalkabilityDesignIntersections

ImproveDestinationAccessibilityCheck	ImproveDestinationAccessibilityDistance

IncreaseTransitAccessibilityCheck	IncreaseTransitAccessibilityDistance

IntegrateBelowMarketRateHousingCheck	IntegrateBelowMarketRateHousingDU

ImprovePedestrianNetworkCheck	ImprovePedestrianNetworkSelection

ProvideTrafficCalmingMeasuresCheck	ProvideTrafficCalmingMeasuresPercentStreet

ProvideTrafficCalmingMeasuresPercentIntersection ImplementNEVNetworkCheck

LimitParkingSupplyCheck	LimitParkingSupplySpacePercentReduction	UnbundleParkingCostCheck

UnbundleParkingCostCost	OnStreetMarketPricingCheck	OnStreetMarketPricingPricePercentIncrease

ProvideBRTSystemCheck	ProvideBRTSystemPercentBRT	ExpandTransitNetworkCheck

ExpandTransitNetworkTransitCoveragePercentIncrease IncreaseTransitFrequencyCheck

IncreaseTransitFrequencyImplementationLevel

IncreaseTransitFrequencyHeadwaysPercentReduction

tblCommuteMitigation

ImplementTripReductionProgramCheck	ImplementTripReductionProgramPercentEmployee
	0

tblCommuteMitigation

ImplementTripReductionProgramType	TransitSubsidyCheck	TransitSubsidyPercentEmployee
	0	

TransitSubsidyDailySubsidyAmount	ImplementEmployeeParkingCashOutCheck
	0

ImplementEmployeeParkingCashOutPercentEmployee WorkplaceParkingChargeCheck

0

WorkplaceParkingChargePercentEmployee	WorkplaceParkingChargeCost

EncourageTelecommutingCheck EncourageTelecommutingPercentEmployee9_80
0

EncourageTelecommutingPercentEmployee4_40

EncourageTelecommutingPercentEmployee1_5days MarketCommuteTripReductionOptionCheck

0

MarketCommuteTripReductionOptionPercentEmployee	EmployeeVanpoolCheck
	0

EmployeeVanpoolPercentEmployee EmployeeVanpoolPercentModeShare

2

ProvideRideSharingProgramCheck	ProvideRideSharingProgramPercentEmployee
	0

ImplementSchoolBusProgramCheck	ImplementSchoolBusProgramPercentFamilyUsing
	0

LandscapeLawnmowerCheck	LandscapeLawnmowerPercentElectric	LandscapeLeafblowerCheck
0		0

LandscapeLeafblowerPercentElectric	LandscapeChainsawCheck
	0

LandscapeChainsawPercentElectric	UseLowVOCPaintResidentialInteriorCheck
	0

UseLowVOCPaintResidentialInteriorValue	UseLowVOCPaintResidentialExteriorCheck
100	0

UseLowVOCPaintResidentialExteriorValue	UseLowVOCPaintNonresidentialInteriorCheck
150	0

UseLowVOCPaintNonresidentialInteriorValue	UseLowVOCPaintNonresidentialExteriorCheck
100	0

tblAreaMitigation

UseLowVOCPaintNonresidentialExteriorValue	HearthOnlyNaturalGasHearthCheck	NoHearthCheck
150	0	0

tblAreaMitigation

UseLowVOCCleaningSuppliesCheck	UseLowVOCPaintParkingCheck
0	0

UseLowVOCPaintParkingValue
150

tblEnergyMitigation

ExceedTitle24Check	ExceedTitle24CheckPercentImprovement	InstallHighEfficiencyLightingCheck

InstallHighEfficiencyLightingPercentEnergyReduction OnSiteRenewableEnergyCheck

KwhGeneratedCheck	KwhGenerated	PercentOfElectricityUseGeneratedCheck

PercentOfElectricityUseGenerated

tblApplianceMitigation

ApplianceType	ApplianceLandUseSubType	PercentImprovement
ClothWasher		30
DishWasher		15
Fan		50
Refrigerator		15

tblWaterMitigation

ApplyWaterConservationStrategyCheck	ApplyWaterConservationStrategyPercentReductionIndoor
	0

ApplyWaterConservationStrategyPercentReductionOutdoor	UseReclaimedWaterCheck
	0

PercentOutdoorReclaimedWaterUse	PercentIndoorReclaimedWaterUse	UseGreyWaterCheck
		0

tblWaterMitigation

PercentOutdoorGreyWaterUse	PercentIndoorGreyWaterUse	InstallLowFlowBathroomFaucetCheck
		0

PercentReductionInFlowBathroomFaucet	InstallLowFlowKitchenFaucetCheck
32	0

tblWaterMitigation

PercentReductionInFlowKitchenFaucet	InstallLowFlowToiletCheck	PercentReductionInFlowToilet
18	0	20

tblWaterMitigation

InstallLowFlowShowerCheck	PercentReductionInFlowShower	TurfReductionCheck
0	20	0

TurfReductionTurfArea	TurfReductionPercentReduction	UseWaterEfficientIrrigationSystemCheck
		0

tblWaterMitigation

UseWaterEfficientIrrigationSystemPercentReduction	WaterEfficientLandscapeCheck	MAWA	ETWU
6.1	0		

InstituteRecyclingAndCompostingServicesCheck

InstituteRecyclingAndCompostingServicesWastePercentReduction

tblOperationalOffRoadEquipment

OperOffRoadEquipmentType	OperOffRoadEquipmentNumber	OperHoursPerDay

tblOperationalOffRoadEquipment

OperDaysPerYear	OperHorsePower	OperLoadFactor	OperFuelType

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2
Congregate Care (Assisted Living)	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083
Elementary School	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083
Parking Lot	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083

MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.010615	0.023794	0.001605	0.00181	0.005454	0.002746	0.000871
0.010615	0.023794	0.001605	0.00181	0.005454	0.002746	0.000871
0.010615	0.023794	0.001605	0.00181	0.005454	0.002746	0.000871

tblStationaryGeneratorsPumpsUse

GeneratorsPumpsEquipmentType	NumberOfEquipment	GeneratorsPumpsFuelType

HorsePowerValue	Load_Factor	HoursPerDay	HoursPerYear

GeneratorsPumpsEquipmentDescription

tblStationaryBoilersUse

BoilerEquipmentType	NumberOfEquipment	BoilerFuelType	BoilerRatingValue	DailyHeatInput

AnnualHeatInput	BoilerEquipmentDescription

tblStationaryUserDefined

UserDefinedEquipmentType	UserDefinedFuelTypes	TOG_lb_day	TOG_tpy	ROG_lb_day	ROG_tpy

CO_lb_day	CO_tpy	NOX_lb_day	NOX_tpy	SO2_lb_day	SO2_tpy	PM10_lb_day	PM10_tpy

PM2_5_lb_day	PM2_5_tpy	CO2_lb_day	CO2_tpy	CH4_lb_day	CH4_tpy

tblStationaryGeneratorsPumpsEF

GeneratorsPumpsEquipmentDescriptionEF	TOG_EF	TOG_EF_UOM	ROG_EF	ROG_EF_UOM

CO_EF	CO_EF_UOM	NOX_EF	NOX_EF_UOM	SO2_EF	SO2_EF_UOM	PM10_EF	PM10_EF_UOM

PM2_5_EF	PM2_5_EF_UOM	CO2_EF	CO2_EF_UOM	CH4_EF	CH4_EF_UOM

tblStationaryBoilersEF

BoilerEquipmentDescriptionEF	TOG_EF	TOG_EF_UOM	ROG_EF	ROG_EF_UOM	CO_EF

CO_EF_UOM	NOX_EF	NOX_EF_UOM	SO2_EF	SO2_EF_UOM	PM10_EF	PM10_EF_UOM

PM2_5_EF	PM2_5_EF_UOM	CO2_EF	CO2_EF_UOM	CH4_EF	CH4_EF_UOM

SubModuleID	PhaseName	Season
1		
3		
4		
5	Architectural Coating	
5	Building Construction	
5	Demolition	
5	Grading	
5	Paving	
5	Site Preparation	
6		
8		
9		
12		
15		
21		
25		

Remarks
PG&E 2020 rate
Client emails and plans
Default Schedule

Crane = 2 hours/day
Demo pavement for school

default equipment
302 one way concrete trips for const.; 40 one way paving trips
277 tons at school expansion
balanced site
memory care 3.06, 2.46 Sat, 2.72 Sun; school 4.1
all gas no wood
100% aerobic
Temp. Line power generator

tblProjectCharacteristics

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel
18-018 Church of the Valley Existing	C	CC	2.2	58	4	Urban

tblProjectCharacteristics

OperationalYear	UtilityCompany	CO2IntensityFactor	CH4IntensityFactor	N2OIntensityFactor	TotalPopulation
2021	Pacific Gas & Electric Company	290	0.029	0.006	0

TotalLotAcreage	UsingHistoricalEnergyUseData	ConstructionPhaseStartDate
0.5	0	2019/01/01

PollutantSelection	PollutantFullName	PollutantName
1	Reactive Organic Gases (ROG)	ROG
1	Nitrogen Oxides (NOx)	NOX
1	Carbon Monoxide (CO)	CO
1	Sulfur Dioxide (SO2)	SO2
1	Particulate Matter 10um (PM10)	PM10
1	Particulate Matter 2.5um (PM2.5)	PM2_5
1	Fugitive PM10um (PM10)	PM10_FUG
1	Fugitive PM2.5um (PM2.5)	PM25_FUG
1	Biogenic Carbon Dioxide (CO2)	CO2_BIO
1	Non-Biogenic Carbon Dioxide (CO2)	CO2_NBIO
1	Carbon Dioxide (CO2)	CO2
1	Methane (CH4)	CH4
1	Nitrous Oxide (N2O)	N2O
1	CO2 Equivalent GHGs (CO2e)	CO2E

tblLandUse

LandUseType	LandUseSubType	LandUseUnitAmount	LandUseSizeMetric	LotAcreage	LandUseSquareFeet	Population
Educational	Elementary School	40	Student	0.5	16096	0

tblLandUse

BuildingSpaceSquareFeet	GreenSpaceAllowEdit	RecSwimmingAreaAllowEdit
3344.13	0	0

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays	PhaseDescription
1	Site Preparation	Site Preparation	2019/01/15	2019/01/15	5	1	

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Site Preparation	Graders	0	8	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8	97	0.37

tblTripsAndVMT

PhaseName	WorkerTripNumber	VendorTripNumber	HaulingTripNumber	WorkerTripLength	VendorTripLength	HaulingTripLength
Site Preparation	5	0	0	10.8	7.3	20

WorkerVehicleClass	VendorVehicleClass	HaulingVehicleClass
LD_Mix	HDT_Mix	HHDT

tblOnRoadDust

PhaseName	WorkerPercentPave	VendorPercentPave	HaulingPercentPave	RoadSiltLoading	MaterialSiltContent
Site Preparation	100	100	100	0.1	8.5

MaterialMoistureContent	AverageVehicleWeight	MeanVehicleSpeed
0.5	2.4	40

tblDemolition

PhaseName	DemolitionSizeMetric	DemolitionUnitAmount

tblGrading

PhaseName	MaterialImported	MaterialExported	GradingSizeMetric	ImportExportPhased	MeanVehicleSpeed	AcresOfGrading
Site Preparation	0	0		0	7.1	0

MaterialMoistureContentBulldozing	MaterialMoistureContentTruckLoading	MaterialSiltContent
7.9	12	6.9

tblArchitecturalCoating

PhaseName	ArchitecturalCoatingStartDate	ArchitecturalCoatingEndDate	EF_Residential_Interior	ConstArea_Residential_Interior

EF_Residential_Exterior	ConstArea_Residential_Exterior	EF_Nonresidential_Interior	ConstArea_Nonresidential_Interior

EF_Nonresidential_Exterior	ConstArea_Nonresidential_Exterior	EF_Parking	ConstArea_Parking

ParkingLotAcreage

VehicleTripsLandUseSubType	VehicleTripsLandUseSizeMetric	WD_TR	ST_TR	SU_TR	HW_TL	HS_TL	HO_TL	CC_TL	CW_TL
Elementary School	Student	4.1	0	0	0	0	0	7.3	9.5

CNW_TL	PR_TP	DV_TP	PB_TP	HW_TTP	HS_TTP	HO_TTP	CC_TTP	CW_TTP	CNW_TTP
7.3	63	25	12	0	0	0	30	65	5

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD
A	CH4_IDLEX	0	0	0	0	0.005584	0.003604	0.016827	0.620085
A	CH4_RUNEX	0.004482	0.009812	0.005698	0.011728	0.02079	0.008978	0.007299	0.045
A	CH4_STREX	0.006808	0.016299	0.008279	0.020697	0.02101	0.00811	0.058591	0.117678
A	CO_IDLEX	0	0	0	0	0.14797	0.121893	0.403318	2.56111
A	CO_RUNEX	0.589305	1.186136	0.732028	1.310792	1.210711	0.658676	0.502977	0.921269
A	CO_STREX	1.412618	3.217925	1.753258	3.57868	2.715668	1.21943	7.3272	2.990106
A	CO2_NBIO_IDLEX	0	0	0	0	9.172001	14.388616	137.219467	4622.541296
A	CO2_NBIO_RUNEX	261.268703	320.677203	363.00911	490.72722	702.13065	719.215263	1207.937319	1632.587763
A	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357	23.446982	62.077272	8.731573
A	NOX_IDLEX	0	0	0	0	0.084552	0.116517	0.599808	21.388417
A	NOX_RUNEX	0.055456	0.122596	0.080788	0.16646	1.749442	1.197215	1.628395	3.991097
A	NOX_STREX	0.087296	0.184398	0.142917	0.328272	1.045343	0.499662	10.363477	19.83416
A	PM10_IDLEX	0	0	0	0	0.000958	0.001348	0.000891	0.019967
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060614
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073	0.010789	0.012	0.035216
A	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491	0.017416	0.007354	0.01809
A	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974	0.000409	0.001017	0.000101
A	PM25_IDLEX	0	0	0	0	0.000917	0.00129	0.000853	0.019103
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025978
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518	0.002697	0.003	0.008804
A	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601	0.01664	0.007029	0.017308
A	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895	0.000376	0.000935	0.000092
A	ROG_DIURN	0.03439	0.097902	0.041258	0.06451	0.00242	0.000787	0.001029	0.000093
A	ROG_HTSK	0.111408	0.268903	0.120514	0.194299	0.102267	0.032761	0.048981	0.005184
A	ROG_IDLEX	0	0	0	0	0.017216	0.013934	0.028988	0.659135
A	ROG_RESTL	0.032225	0.084861	0.042436	0.067776	0.001346	0.000463	0.000565	0.00006
A	ROG_RUNEX	0.011346	0.02449	0.014152	0.03227	0.14161	0.118459	0.063664	0.136852
A	ROG_RUNLS	0.039739	0.168764	0.065911	0.106023	0.317501	0.070668	0.026972	0.000452
A	ROG_STREX	0.091815	0.219825	0.11165	0.279234	0.283348	0.109368	0.437345	0.09983
A	SO2_IDLEX	0	0	0	0	0.000092	0.00014	0.001322	0.043481
A	SO2_RUNEX	0.002616	0.00322	0.003635	0.004917	0.006893	0.006991	0.011609	0.015345
A	SO2_STREX	0.000618	0.000787	0.000858	0.001166	0.000367	0.000257	0.000749	0.000137
A	TOG_DIURN	0.03439	0.097902	0.041258	0.06451	0.00242	0.000787	0.001029	0.000093
A	TOG_HTSK	0.111408	0.268903	0.120514	0.194299	0.102267	0.032761	0.048981	0.005184
A	TOG_IDLEX	0	0	0	0	0.023891	0.018516	0.040146	0.758837
A	TOG_RESTL	0.032225	0.084861	0.042436	0.067776	0.001346	0.000463	0.000565	0.00006

A	TOG_RUNEX	0.01646	0.03565	0.02063	0.045676	0.173961	0.137975	0.07637	0.194568
A	TOG_RUNLS	0.039739	0.168764	0.065911	0.106023	0.317501	0.070668	0.026972	0.000452
A	TOG_STREX	0.100523	0.240674	0.122241	0.305659	0.310231	0.119744	0.478838	0.109301
S	CH4_IDLEX	0	0	0	0	0.005584	0.003604	0.015637	0.584797
S	CH4_RUNEX	0.005085	0.011015	0.006456	0.013215	0.0215	0.009131	0.007495	0.045056
S	CH4_STREX	0.005473	0.013019	0.006665	0.016646	0.019595	0.007599	0.054539	0.109452
S	CO_IDLEX	0	0	0	0	0.14797	0.121893	0.279854	1.865192
S	CO_RUNEX	0.71677	1.410461	0.886542	1.562726	1.239887	0.665097	0.513856	0.930041
S	CO_STREX	1.081461	2.439606	1.343365	2.752486	2.483678	1.120398	6.669843	2.720622
S	CO2_NBIO_IDLEX	0	0	0	0	9.172001	14.388616	145.510867	4895.398446
S	CO2_NBIO_RUNEX	285.724042	349.479849	396.237687	534.390989	702.13065	719.215263	1207.937319	1632.587763
S	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357	23.446982	62.077272	8.731573
S	NOX_IDLEX	0	0	0	0	0.084552	0.116517	0.619123	22.071313
S	NOX_RUNEX	0.050052	0.109339	0.07268	0.149485	1.672409	1.149924	1.561305	3.844747
S	NOX_STREX	0.076796	0.162201	0.125737	0.288851	0.96768	0.465701	10.285767	19.814154
S	PM10_IDLEX	0	0	0	0	0.000958	0.001348	0.000751	0.017167
S	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060614
S	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073	0.010789	0.012	0.035216
S	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491	0.017416	0.007354	0.01809
S	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974	0.000409	0.001017	0.000101
S	PM25_IDLEX	0	0	0	0	0.000917	0.00129	0.000719	0.016425
S	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025978
S	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518	0.002697	0.003	0.008804
S	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601	0.01664	0.007029	0.017308
S	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895	0.000376	0.000935	0.000092
S	ROG_DIURN	0.08969	0.258512	0.105861	0.163947	0.006218	0.002008	0.002751	0.000257
S	ROG_HTSK	0.128217	0.319926	0.137787	0.218174	0.118048	0.03772	0.057461	0.005801
S	ROG_IDLEX	0	0	0	0	0.017216	0.013934	0.027017	0.621749
S	ROG_RESTL	0.074749	0.198922	0.096552	0.152726	0.003159	0.001082	0.001427	0.00016
S	ROG_RUNEX	0.012844	0.027478	0.01603	0.035726	0.143366	0.118836	0.064149	0.13699
S	ROG_RUNLS	0.037772	0.158208	0.061893	0.099977	0.309737	0.068893	0.026342	0.00045
S	ROG_STREX	0.073809	0.175583	0.089893	0.224583	0.264261	0.102475	0.407101	0.092852
S	SO2_IDLEX	0	0	0	0	0.000092	0.00014	0.0014	0.046048
S	SO2_RUNEX	0.002863	0.003512	0.003969	0.005356	0.006893	0.006991	0.011609	0.015345
S	SO2_STREX	0.000612	0.000773	0.000851	0.001151	0.000363	0.000255	0.000738	0.000133
S	TOG_DIURN	0.08969	0.258512	0.105861	0.163947	0.006218	0.002008	0.002751	0.000257
S	TOG_HTSK	0.128217	0.319926	0.137787	0.218174	0.118048	0.03772	0.057461	0.005801

S	TOG_IDLEX	0	0	0	0	0.023891	0.018516	0.037394	0.715788
S	TOG_RESTL	0.074749	0.198922	0.096552	0.152726	0.003159	0.001082	0.001427	0.00016
S	TOG_RUNEX	0.018644	0.040006	0.023369	0.050819	0.176523	0.138526	0.077079	0.194769
S	TOG_RUNLS	0.037772	0.158208	0.061893	0.099977	0.309737	0.068893	0.026342	0.00045
S	TOG_STREX	0.08081	0.192236	0.09842	0.245837	0.289332	0.112197	0.445724	0.101661
W	CH4_IDLEX	0	0	0	0	0.005584	0.003604	0.018028	0.668816
W	CH4_RUNEX	0.004365	0.009625	0.005538	0.011458	0.020233	0.008856	0.007146	0.044958
W	CH4_STREX	0.007803	0.018781	0.009471	0.023726	0.022241	0.008549	0.062132	0.125042
W	CO_IDLEX	0	0	0	0	0.14797	0.121893	0.531697	3.52214
W	CO_RUNEX	0.579082	1.173222	0.719483	1.303232	1.188156	0.653692	0.494683	0.914669
W	CO_STREX	1.679629	3.847166	2.082919	4.249818	2.94066	1.313745	7.957721	3.251309
W	CO2_NBIO_IDLEX	0	0	0	0	9.172001	14.388616	126.14458	4245.738565
W	CO2_NBIO_RUNEX	257.917934	316.730783	358.456268	484.744591	702.13065	719.215263	1207.937319	1632.587763
W	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357	23.446982	62.077272	8.731573
W	NOX_IDLEX	0	0	0	0	0.084552	0.116517	0.573167	20.445369
W	NOX_RUNEX	0.061137	0.135574	0.089224	0.183742	1.78601	1.218233	1.65776	4.055616
W	NOX_STREX	0.096076	0.202842	0.157287	0.361206	1.115633	0.530496	10.433746	19.852248
W	PM10_IDLEX	0	0	0	0	0.000958	0.001348	0.001084	0.023833
W	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060614
W	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073	0.010789	0.012	0.035216
W	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491	0.017416	0.007354	0.01809
W	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974	0.000409	0.001017	0.000101
W	PM25_IDLEX	0	0	0	0	0.000917	0.00129	0.001038	0.022802
W	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025978
W	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518	0.002697	0.003	0.008804
W	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601	0.01664	0.007029	0.017308
W	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895	0.000376	0.000935	0.000092
W	ROG_DIURN	0.011533	0.030704	0.015053	0.024102	0.000822	0.000285	0.000323	0.000032
W	ROG_HTSK	0.115517	0.285544	0.124349	0.199833	0.112223	0.035042	0.05151	0.005516
W	ROG_IDLEX	0	0	0	0	0.017216	0.013934	0.031107	0.710764
W	ROG_RESTL	0.014038	0.03663	0.018764	0.030171	0.000586	0.000206	0.000227	0.000023
W	ROG_RUNEX	0.011062	0.024041	0.013757	0.031927	0.140231	0.118157	0.063286	0.136748
W	ROG_RUNLS	0.046523	0.206769	0.080003	0.127715	0.352443	0.078736	0.030413	0.000497
W	ROG_STREX	0.105237	0.253298	0.127735	0.320109	0.299946	0.115288	0.463779	0.106077
W	SO2_IDLEX	0	0	0	0	0.000092	0.00014	0.001218	0.039937
W	SO2_RUNEX	0.002583	0.003181	0.00359	0.004857	0.006892	0.006991	0.011609	0.015345
W	SO2_STREX	0.000622	0.000798	0.000864	0.001178	0.000371	0.000258	0.00076	0.000142

W	TOG_DIURN	0.011533	0.030704	0.015053	0.024102	0.000822	0.000285	0.000323	0.000032
W	TOG_HTSK	0.115517	0.285544	0.124349	0.199833	0.112223	0.035042	0.05151	0.005516
W	TOG_IDLEX	0	0	0	0	0.023891	0.018516	0.043067	0.818284
W	TOG_RESTL	0.014038	0.03663	0.018764	0.030171	0.000586	0.000206	0.000227	0.000023
W	TOG_RUNEX	0.016044	0.034989	0.020053	0.045032	0.171949	0.137534	0.07582	0.194415
W	TOG_RUNLS	0.046523	0.206769	0.080003	0.127715	0.352443	0.078736	0.030413	0.000497
W	TOG_STREX	0.115218	0.277321	0.139852	0.350398	0.328403	0.126226	0.50778	0.116141

OBUS	UBUS	MCY	SBUS	MH
0.012516	0	0	0.927457	0
0.013444	0.23172	0.444966	0.006865	0.035336
0.031576	0.074129	0.167091	0.064414	0.026847
0.269766	0	0	1.996509	0
0.811727	4.477915	20.928313	0.424116	2.46589
6.419527	12.365266	10.154455	1.226024	6.176387
77.54154	0	0	1470.09661	0
1299.494909	1992.711484	171.863895	1256.670952	1227.102359
69.853005	151.44869	46.886292	8.752244	59.137886
0.374721	0	0	15.943637	0
1.538475	7.132497	1.171469	6.101011	1.619364
2.354509	12.358263	0.321253	19.47855	0.900528
0.000129	0	0	0.017303	0
0.13034	0.49144	0.01176	0.7448	0.13034
0.012	0.012	0.004	0.011768	0.012902
0.007002	0.139014	0.002017	0.034408	0.032363
0.000782	0.001177	0.004268	0.000138	0.001147
0.000124	0	0	0.016555	0
0.05586	0.210617	0.00504	0.3192	0.05586
0.003	0.003	0.001	0.002942	0.003225
0.006676	0.132965	0.001891	0.032917	0.030906
0.000719	0.001082	0.004034	0.000126	0.001054
0.00113	0.004787	0.890733	0.000331	0.845151
0.018363	0.09119	0.790359	0.003378	0.076624
0.036563	0	0	0.2359	0
0.000554	0.002528	0.569283	0.000157	0.322154
0.072447	0.479665	2.343084	0.12455	0.113589
0.039594	0.020877	0.659598	0.001553	0.020083
0.400094	0.999709	2.280984	0.061856	0.36206
0.000752	0	0	0.014071	0
0.012733	0.018221	0.002128	0.012007	0.012187
0.000811	0.001739	0.000702	0.000109	0.000699
0.00113	0.004787	0.890733	0.000331	0.845151
0.018363	0.09119	0.790359	0.003378	0.076624
0.050648	0	0	0.31796	0
0.000554	0.002528	0.569283	0.000157	0.322154

0.091516	0.75107	2.873049	0.142759	0.156274
0.039594	0.020877	0.659598	0.001553	0.020083
0.438053	1.094556	2.481275	0.067724	0.396411
0.012492	0	0	0.924381	0
0.013867	0.235534	0.429218	0.006912	0.037406
0.029259	0.063906	0.13633	0.052173	0.024768
0.259608	0	0	1.796842	0
0.83543	4.555758	20.102753	0.426658	2.586368
5.774077	9.650039	8.869765	0.845571	5.523668
81.13072	0	0	1554.872739	0
1299.494909	1992.711484	171.863895	1256.670952	1227.102359
69.853005	151.44869	46.886292	8.752244	59.137886
0.386698	0	0	16.456091	0
1.46606	6.825237	1.024038	5.864339	1.521677
2.272242	12.22338	0.291363	19.47117	0.832256
0.000109	0	0	0.014587	0
0.13034	0.49144	0.01176	0.7448	0.13034
0.012	0.012	0.004	0.011768	0.012902
0.007002	0.139014	0.002017	0.034408	0.032363
0.000782	0.001177	0.004268	0.000138	0.001147
0.000104	0	0	0.013956	0
0.05586	0.210617	0.00504	0.3192	0.05586
0.003	0.003	0.001	0.002942	0.003225
0.006676	0.132965	0.001891	0.032917	0.030906
0.000719	0.001082	0.004034	0.000126	0.001054
0.002796	0.012224	2.637733	0.000833	2.185759
0.019948	0.106087	1.108912	0.003586	0.08745
0.036077	0	0	0.231184	0
0.001303	0.005953	1.755431	0.000378	0.786903
0.073494	0.489106	2.240304	0.124666	0.118712
0.038627	0.019308	0.62564	0.001336	0.019658
0.370737	0.861848	1.860862	0.0501	0.334028
0.000786	0	0	0.01488	0
0.012733	0.018223	0.002112	0.012007	0.012189
0.0008	0.001692	0.000668	0.000102	0.000688
0.002796	0.012224	2.637733	0.000833	2.185759
0.019948	0.106087	1.108912	0.003586	0.08745

0.050095	0	0	0.312591	0
0.001303	0.005953	1.755431	0.000378	0.786903
0.093043	0.764846	2.751124	0.142928	0.16375
0.038627	0.019308	0.62564	0.001336	0.019658
0.405911	0.943616	2.024382	0.054854	0.365719
0.012549	0	0	0.931705	0
0.01311	0.229022	0.464618	0.006829	0.033816
0.033345	0.082711	0.197164	0.073227	0.028516
0.283793	0	0	2.27224	0
0.793555	4.42118	22.905848	0.422215	2.376958
6.94427	14.826625	11.679387	1.531758	6.737043
72.585052	0	0	1353.024812	0
1299.494909	1992.711484	171.863895	1256.670952	1227.102359
69.853005	151.44869	46.886292	8.752244	59.137886
0.35818	0	0	15.235963	0
1.573452	7.26295	1.263414	6.198108	1.671779
2.428774	12.471004	0.346215	19.484213	0.962104
0.000157	0	0	0.021055	0
0.13034	0.49144	0.01176	0.7448	0.13034
0.012	0.012	0.004	0.011768	0.012902
0.007002	0.139014	0.002017	0.034408	0.032363
0.000782	0.001177	0.004268	0.000138	0.001147
0.00015	0	0	0.020144	0
0.05586	0.210617	0.00504	0.3192	0.05586
0.003	0.003	0.001	0.002942	0.003225
0.006676	0.132965	0.001891	0.032917	0.030906
0.000719	0.001082	0.004034	0.000126	0.001054
0.000484	0.001671	0.170614	0.000135	0.26743
0.018662	0.104044	0.920025	0.003506	0.089714
0.037233	0	0	0.242412	0
0.00026	0.001117	0.169538	0.000072	0.136806
0.071623	0.472989	2.466197	0.124461	0.109829
0.043351	0.025729	0.774719	0.001982	0.021577
0.422507	1.115451	2.69179	0.070318	0.384576
0.000705	0	0	0.012954	0
0.012733	0.01822	0.002164	0.012007	0.012185
0.00082	0.001781	0.00074	0.000114	0.000709

0.000484	0.001671	0.170614	0.000135	0.26743
0.018662	0.104044	0.920025	0.003506	0.089714
0.051411	0	0	0.325374	0
0.00026	0.001117	0.169538	0.000072	0.136806
0.090312	0.741328	3.019951	0.142629	0.150788
0.043351	0.025729	0.774719	0.001982	0.021577
0.462592	1.221278	2.927996	0.07699	0.421062

tblRoadDust

RoadPercentPave	RoadSiltLoading	MaterialSiltContent	MaterialMoistureContent	MobileAverageVehicleWeight	MeanVehicleSpeed
100	0.1	4.3	0.5	2.4	40

CARB_PM_VMT
0

tblWoodstoves

WoodstovesLandUseSubType	NumberConventional	NumberCatalytic	NumberNoncatalytic	NumberPellet	WoodstoveDayYear

WoodstoveWoodMass

tblFireplaces

FireplacesLandUseSubType	NumberWood	NumberGas	NumberPropane	NumberNoFireplace	FireplaceHourDay	FireplaceDayYear

FireplaceWoodMass

ROG_EF	ROG_EF_Degreaser	ROG_EF_PesticidesFertilizers
0.0000214	3.542E-07	5.152E-08

tblAreaCoating

Area_EF_Residential_Interior	Area_Residential_Interior	Area_EF_Residential_Exterior	Area_Residential_Exterior
100	0	150	0

tblAreaCoating

Area_EF_Nonresidential_Interior	Area_Nonresidential_Interior	Area_EF_Nonresidential_Exterior	Area_Nonresidential_Exterior
100	24144	150	8048

ReapplicationRatePercent	Area_EF_Parking	Area_Parking
10	150	0

NumberSnowDays	NumberSummerDays
0	180

EnergyUseLandUseSubType	T24E	NT24E	LightingElect	T24NG	NT24NG
Elementary School	1.56	1.28	2.55	17.51	0.93

WaterLandUseSubType	WaterLandUseSizeMetric	IndoorWaterUseRate	OutdoorWaterUseRate	ElectricityIntensityFactorToSupply
Elementary School	Student	96969.6	249350.4	2117

ElectricityIntensityFactorToTreat	ElectricityIntensityFactorToDistribute	ElectricityIntensityFactorForWastewaterTreatment
111	1272	1911

SepticTankPercent	AerobicPercent	AnaerobicandFacultativeLagoonsPercent	AnaDigestCombDigestGasPercent
0	100	0	100

AnaDigestCogenCombDigestGasPercent

0

SolidWasteLandUseSubType	SolidWasteLandUseSizeMetric	SolidWasteGenerationRate	LandfillNoGasCapture
Elementary School	Student	7.3	6

LandfillCaptureGasFlare	LandfillCaptureGasEnergyRecovery
94	0

tblLandUseChange

VegetationLandUseType	VegetationLandUseSubType	AcresBegin	AcresEnd	CO2peracre

tblSequestration

BroadSpeciesClass	NumberOfNewTrees	CO2perTree

tblConstEquipMitigation

ConstMitigationEquipmentType	FuelType	Tier	NumberOfEquipmentMitigated	TotalNumberOfEquipmentMitigated	DPF
Graders	Diesel	No Change	0	1	No Change
Tractors/Loaders/Backhoes	Diesel	No Change	0	1	No Change

OxidationCatalyst
0
0

tblConstDustMitigation

SoilStabilizerCheck	SoilStabilizerPM10PercentReduction	SoilStabilizerPM25PercentReduction	ReplaceGroundCoverCheck
0			0

ReplaceGroundCoverPM10PercentReduction	ReplaceGroundCoverPM25PercentReduction	WaterExposedAreaCheck
		0

WaterExposedAreaFrequency	WaterExposedAreaPM10PercentReduction	WaterExposedAreaPM25PercentReduction

WaterUnpavedRoadMoistureContentCheck	WaterUnpavedRoadVehicleSpeedCheck	WaterUnpavedRoadMoistureContent
0	0	

WaterUnpavedRoadVehicleSpeed	CleanPavedRoadPercentReduction
	0

ProjectSetting	IncreaseDensityCheck	IncreaseDensityDUPerAcre	IncreaseDensityJobPerAcre	IncreaseDiversityCheck

ImproveWalkabilityDesignCheck	ImproveWalkabilityDesignIntersections	ImproveDestinationAccessibilityCheck

ImproveDestinationAccessibilityDistance IncreaseTransitAccessibilityCheck IncreaseTransitAccessibilityDistance

IntegrateBelowMarketRateHousingCheck	IntegrateBelowMarketRateHousingDU	ImprovePedestrianNetworkCheck

ImprovePedestrianNetworkSelection	ProvideTrafficCalmingMeasuresCheck	ProvideTrafficCalmingMeasuresPercentStreet

ProvideTrafficCalmingMeasuresPercentIntersection	ImplementNEVNetworkCheck	LimitParkingSupplyCheck

LimitParkingSupplySpacePercentReduction	UnbundleParkingCostCheck	UnbundleParkingCostCost	OnStreetMarketPricingCheck

OnStreetMarketPricingPricePercentIncrease	ProvideBRTSystemCheck	ProvideBRTSystemPercentBRT	ExpandTransitNetworkCheck

ExpandTransitNetworkTransitCoveragePercentIncrease	IncreaseTransitFrequencyCheck	IncreaseTransitFrequencyImplementationLevel

IncreaseTransitFrequencyHeadwaysPercentReduction

tblCommuteMitigation

ImplementTripReductionProgramCheck	ImplementTripReductionProgramPercentEmployee	ImplementTripReductionProgramType
	0	

tblCommuteMitigation

TransitSubsidyCheck	TransitSubsidyPercentEmployee	TransitSubsidyDailySubsidyAmount	ImplementEmployeeParkingCashOutCheck
0			0

tblCommuteMitigation

ImplementEmployeeParkingCashOutPercentEmployee	WorkplaceParkingChargeCheck	WorkplaceParkingChargePercentEmployee
		0

WorkplaceParkingChargeCost	EncourageTelecommutingCheck	EncourageTelecommutingPercentEmployee9_80
		0

EncourageTelecommutingPercentEmployee4_40 EncourageTelecommutingPercentEmployee1_5days

tblCommuteMitigation

MarketCommuteTripReductionOptionCheck	MarketCommuteTripReductionOptionPercentEmployee	EmployeeVanpoolCheck
0		0

tblCommuteMitigation

EmployeeVanpoolPercentEmployee	EmployeeVanpoolPercentModeShare	ProvideRideSharingProgramCheck
2		0

ProvideRideSharingProgramPercentEmployee	ImplementSchoolBusProgramCheck	ImplementSchoolBusProgramPercentFamilyUsing
		0

tblAreaMitigation

LandscapeLawnmowerCheck	LandscapeLawnmowerPercentElectric	LandscapeLeafblowerCheck	LandscapeLeafblowerPercentElectric
0		0	

LandscapeChainsawCheck	LandscapeChainsawPercentElectric	UseLowVOCPaintResidentialInteriorCheck
0		0

UseLowVOCPaintResidentialInteriorValue	UseLowVOCPaintResidentialExteriorCheck	UseLowVOCPaintResidentialExteriorValue
100	0	150

UseLowVOCPaintNonresidentialInteriorCheck	UseLowVOCPaintNonresidentialInteriorValue
0	100

UseLowVOCPaintNonresidentialExteriorCheck	UseLowVOCPaintNonresidentialExteriorValue	HearthOnlyNaturalGasHearthCheck
0	150	0

tblAreaMitigation

NoHearthCheck	UseLowVOCCleaningSuppliesCheck	UseLowVOCPaintParkingCheck	UseLowVOCPaintParkingValue
0	0	0	150

ExceedTitle24Check	ExceedTitle24CheckPercentImprovement	InstallHighEfficiencyLightingCheck

InstallHighEfficiencyLightingPercentEnergyReduction	OnSiteRenewableEnergyCheck	KwhGeneratedCheck	KwhGenerated

PercentOfElectricityUseGeneratedCheck	PercentOfElectricityUseGenerated

tblApplianceMitigation

ApplianceType	ApplianceLandUseSubType	PercentImprovement
ClothWasher		30
DishWasher		15
Fan		50
Refrigerator		15

ApplyWaterConservationStrategyCheck	ApplyWaterConservationStrategyPercentReductionIndoor
	0

tblWaterMitigation

ApplyWaterConservationStrategyPercentReductionOutdoor	UseReclaimedWaterCheck	PercentOutdoorReclaimedWaterUse
		0

tblWaterMitigation

PercentIndoorReclaimedWaterUse	UseGreyWaterCheck	PercentOutdoorGreyWaterUse	PercentIndoorGreyWaterUse
		0	

tblWaterMitigation

InstallLowFlowBathroomFaucetCheck	PercentReductionInFlowBathroomFaucet	InstallLowFlowKitchenFaucetCheck
0	32	0

tblWaterMitigation

PercentReductionInFlowKitchenFaucet	InstallLowFlowToiletCheck	PercentReductionInFlowToilet	InstallLowFlowShowerCheck
18	0	20	0

tblWaterMitigation

PercentReductionInFlowShower	TurfReductionCheck	TurfReductionTurfArea	TurfReductionPercentReduction
20	0		

tblWaterMitigation

UseWaterEfficientIrrigationSystemCheck	UseWaterEfficientIrrigationSystemPercentReduction	WaterEfficientLandscapeCheck	MAWA
0	6.1	0	

ETWU

InstituteRecyclingAndCompostingServicesCheck	InstituteRecyclingAndCompostingServicesWastePercentReduction

tblOperationalOffRoadEquipment

OperOffRoadEquipmentType	OperOffRoadEquipmentNumber	OperHoursPerDay	OperDaysPerYear	OperHorsePower	OperLoadFactor

OperFuelType

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS
Elementary School	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.00181

MCY	SBUS	MH
0.005454	0.002746	0.000871

tblStationaryGeneratorsPumpsUse

GeneratorsPumpsEquipmentType	NumberOfEquipment	GeneratorsPumpsFuelType	HorsePowerValue	Load_Factor	HoursPerDay

tblStationaryGeneratorsPumpsUse

HoursPerYear	GeneratorsPumpsEquipmentDescription

tblStationaryBoilersUse

BoilerEquipmentType	NumberOfEquipment	BoilerFuelType	BoilerRatingValue	DailyHeatInput	AnnualHeatInput

BoilerEquipmentDescription

tblStationaryUserDefined

UserDefinedEquipmentType	UserDefinedFuelTypes	TOG_lb_day	TOG_tpy	ROG_lb_day	ROG_tpy	CO_lb_day	CO_tpy	NOX_lb_day

NOX_tpy	SO2_lb_day	SO2_tpy	PM10_lb_day	PM10_tpy	PM2_5_lb_day	PM2_5_tpy	CO2_lb_day	CO2_tpy	CH4_lb_day	CH4_tpy

tblStationaryGeneratorsPumpsEF

GeneratorsPumpsEquipmentDescriptionEF	TOG_EF	TOG_EF_UOM	ROG_EF	ROG_EF_UOM	CO_EF	CO_EF_UOM	NOX_EF

NOX_EF_UOM	SO2_EF	SO2_EF_UOM	PM10_EF	PM10_EF_UOM	PM2_5_EF	PM2_5_EF_UOM	CO2_EF	CO2_EF_UOM	CH4_EF

CH4_EF_UOM

tblStationaryBoilersEF

BoilerEquipmentDescriptionEF	TOG_EF	TOG_EF_UOM	ROG_EF	ROG_EF_UOM	CO_EF	CO_EF_UOM	NOX_EF	NOX_EF_UOM

SO2_EF	SO2_EF_UOM	PM10_EF	PM10_EF_UOM	PM2_5_EF	PM2_5_EF_UOM	CO2_EF	CO2_EF_UOM	CH4_EF	CH4_EF_UOM

SubModuleID	PhaseName	Season	Remarks
1			PG&E 2020 rate
3			Client plans for sf
4			Existing land use
5	Site Preparation		No equipment for existing
6			
8			
9			no grading for existing
12			Existing trip rate 4.1 (164/40)
21			100% aerobic

tblProjectCharacteristics

ProjectName	LocationScope	EMFAC_ID	WindSpeed
18-018 Church of the Valley San Ramon, School & Memory Care Construction	C	CC	2.2

tblProjectCharacteristics

PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear	UtilityCompany	CO2IntensityFactor
58	4	Urban	2021	Pacific Gas & Electric Company	290

tblProjectCharacteristics

CH4IntensityFactor	N2OIntensityFactor	TotalPopulation	TotalLotAcreage	UsingHistoricalEnergyUseData	ConstructionPhaseStartDate
0.029	0.006	154	2.95	0	2019/01/01

PollutantSelection	PollutantFullName	PollutantName
1	Reactive Organic Gases (ROG)	ROG
1	Nitrogen Oxides (NOx)	NOX
1	Carbon Monoxide (CO)	CO
1	Sulfur Dioxide (SO2)	SO2
1	Particulate Matter 10um (PM10)	PM10
1	Particulate Matter 2.5um (PM2.5)	PM2_5
1	Fugitive PM10um (PM10)	PM10_FUG
1	Fugitive PM2.5um (PM2.5)	PM25_FUG
1	Biogenic Carbon Dioxide (CO2)	CO2_BIO
1	Non-Biogenic Carbon Dioxide (CO2)	CO2_NBIO
1	Carbon Dioxide (CO2)	CO2
1	Methane (CH4)	CH4
1	Nitrous Oxide (N2O)	N2O
1	CO2 Equivalent GHGs (CO2e)	CO2E

tblLandUse

LandUseType	LandUseSubType	LandUseUnitAmount	LandUseSizeMetric	LotAcreage	LandUseSquareFeet	Population
Educational	Elementary School	195	Student	0.87	11650	0
Parking	Parking Lot	61	Space	0.55	24400	0
Residential	Congregate Care (Assisted Living)	54	Dwelling Unit	1.53	22991	154

BuildingSpaceSquareFeet	GreenSpaceAllowEdit	RecSwimmingAreaAllowEdit
16302.66	0	0
24400	0	0
54000	0	0

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays	PhaseDescription
1	Demolition	Demolition	2019/01/01	2019/01/28	5	20	
2	Site Preparation	Site Preparation	2019/01/29	2019/01/31	5	3	
3	Grading	Grading	2019/02/01	2019/02/08	5	6	
4	Building Construction	Building Construction	2019/02/09	2019/12/13	5	220	
5	Paving	Paving	2019/12/14	2019/12/27	5	10	
6	Architectural Coating	Architectural Coating	2019/12/28	2020/01/10	5	10	

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
Demolition	Rubber Tired Dozers	1	8	247	0.4
Demolition	Tractors/Loaders/Backhoes	3	8	97	0.37
Site Preparation	Graders	1	8	187	0.41
Site Preparation	Scrapers	1	8	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7	97	0.37
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.4
Grading	Tractors/Loaders/Backhoes	2	7	97	0.37
Building Construction	Cranes	1	2	231	0.29
Building Construction	Forklifts	2	7	89	0.2
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6	97	0.37
Building Construction	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	8	9	0.56
Paving	Pavers	1	8	130	0.42
Paving	Paving Equipment	1	8	132	0.36
Paving	Rollers	2	8	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

tblTripsAndVMT

PhaseName	WorkerTripNumber	VendorTripNumber	HaulingTripNumber	WorkerTripLength	VendorTripLength	HaulingTripLength
Demolition	13	0	27	1	1	1
Site Preparation	8	0	0	1	1	1
Grading	10	0	0	1	1	1
Building Construction	54	12	302	1	1	1
Paving	15	0	40	1	1	1
Architectural Coating	11	0	0	1	1	1

WorkerVehicleClass	VendorVehicleClass	HaulingVehicleClass
LD_Mix	HDT_Mix	HHDT
LD_Mix	HDT_Mix	HHDT
LD_Mix	HDT_Mix	HHDT
LD_Mix	HDT_Mix	HHDT
LD_Mix	HDT_Mix	HHDT
LD_Mix	HDT_Mix	HHDT

tblOnRoadDust

PhaseName	WorkerPercentPave	VendorPercentPave	HaulingPercentPave	RoadSiltLoading	MaterialSiltContent
Demolition	100	100	100	0.1	8.5
Site Preparation	100	100	100	0.1	8.5
Grading	100	100	100	0.1	8.5
Building Construction	100	100	100	0.1	8.5
Paving	100	100	100	0.1	8.5
Architectural Coating	100	100	100	0.1	8.5

MaterialMoistureContent	AverageVehicleWeight	MeanVehicleSpeed
0.5	2.4	40
0.5	2.4	40
0.5	2.4	40
0.5	2.4	40
0.5	2.4	40
0.5	2.4	40

tblDemolition

PhaseName	DemolitionSizeMetric	DemolitionUnitAmount
Demolition	Ton of Debris	277

tblGrading

PhaseName	MaterialImported	MaterialExported	GradingSizeMetric	ImportExportPhased	MeanVehicleSpeed	AcresOfGrading
Site Preparation	0	0		0	7.1	4.5
Grading	0	0		0	7.1	3

MaterialMoistureContentBulldozing	MaterialMoistureContentTruckLoading	MaterialSiltContent
7.9	12	6.9
7.9	12	6.9

tblArchitecturalCoating

PhaseName	ArchitecturalCoatingStartDate	ArchitecturalCoatingEndDate	EF_Residential_Interior	ConstArea_Residential_Interior
Architectural Coating	2012/01/01	3000/12/31	100	46557

EF_Residential_Exterior	ConstArea_Residential_Exterior	EF_Nonresidential_Interior	ConstArea_Nonresidential_Interior
150	15519	100	17475

EF_Nonresidential_Exterior	ConstArea_Nonresidential_Exterior	EF_Parking	ConstArea_Parking
150	5825	150	1464

ParkingLotAcreage

VehicleTripsLandUseSubType	VehicleTripsLandUseSizeMetric	WD_TR	ST_TR	SU_TR	HW_TL	HS_TL	HO_TL	CC_TL	CW_TL
Congregate Care (Assisted Living)	Dwelling Unit	3.06	2.46	2.72	10.8	4.8	5.7	0	0
Elementary School	Student	4.1	0	0	0	0	0	7.3	9.5
Parking Lot	Space	0	0	0	0	0	0	7.3	9.5

CNW_TL	PR_TP	DV_TP	PB_TP	HW_TTP	HS_TTP	HO_TTP	CC_TTP	CW_TTP	CNW_TTP
0	86	11	3	31	15	54	0	0	0
7.3	63	25	12	0	0	0	30	65	5
7.3	0	0	0	0	0	0	0	0	0

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD
A	CH4_IDLEX	0	0	0	0	0.005584	0.003604	0.016827	0.620085
A	CH4_RUNEX	0.004482	0.009812	0.005698	0.011728	0.02079	0.008978	0.007299	0.045
A	CH4_STREX	0.006808	0.016299	0.008279	0.020697	0.02101	0.00811	0.058591	0.117678
A	CO_IDLEX	0	0	0	0	0.14797	0.121893	0.403318	2.56111
A	CO_RUNEX	0.589305	1.186136	0.732028	1.310792	1.210711	0.658676	0.502977	0.921269
A	CO_STREX	1.412618	3.217925	1.753258	3.57868	2.715668	1.21943	7.3272	2.990106
A	CO2_NBIO_IDLEX	0	0	0	0	9.172001	14.388616	137.219467	4622.541296
A	CO2_NBIO_RUNEX	261.268703	320.677203	363.00911	490.72722	702.13065	719.215263	1207.937319	1632.587763
A	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357	23.446982	62.077272	8.731573
A	NOX_IDLEX	0	0	0	0	0.084552	0.116517	0.599808	21.388417
A	NOX_RUNEX	0.055456	0.122596	0.080788	0.16646	1.749442	1.197215	1.628395	3.991097
A	NOX_STREX	0.087296	0.184398	0.142917	0.328272	1.045343	0.499662	10.363477	19.83416
A	PM10_IDLEX	0	0	0	0	0.000958	0.001348	0.000891	0.019967
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060614
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073	0.010789	0.012	0.035216
A	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491	0.017416	0.007354	0.01809
A	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974	0.000409	0.001017	0.000101
A	PM25_IDLEX	0	0	0	0	0.000917	0.00129	0.000853	0.019103
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025978
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518	0.002697	0.003	0.008804
A	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601	0.01664	0.007029	0.017308
A	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895	0.000376	0.000935	0.000092
A	ROG_DIURN	0.03439	0.097902	0.041258	0.06451	0.00242	0.000787	0.001029	0.000093
A	ROG_HTSK	0.111408	0.268903	0.120514	0.194299	0.102267	0.032761	0.048981	0.005184
A	ROG_IDLEX	0	0	0	0	0.017216	0.013934	0.028988	0.659135
A	ROG_RESTL	0.032225	0.084861	0.042436	0.067776	0.001346	0.000463	0.000565	0.00006
A	ROG_RUNEX	0.011346	0.02449	0.014152	0.03227	0.14161	0.118459	0.063664	0.136852
A	ROG_RUNLS	0.039739	0.168764	0.065911	0.106023	0.317501	0.070668	0.026972	0.000452
A	ROG_STREX	0.091815	0.219825	0.11165	0.279234	0.283348	0.109368	0.437345	0.09983
A	SO2_IDLEX	0	0	0	0	0.000092	0.00014	0.001322	0.043481
A	SO2_RUNEX	0.002616	0.00322	0.003635	0.004917	0.006893	0.006991	0.011609	0.015345
A	SO2_STREX	0.000618	0.000787	0.000858	0.001166	0.000367	0.000257	0.000749	0.000137
A	TOG_DIURN	0.03439	0.097902	0.041258	0.06451	0.00242	0.000787	0.001029	0.000093
A	TOG_HTSK	0.111408	0.268903	0.120514	0.194299	0.102267	0.032761	0.048981	0.005184
A	TOG_IDLEX	0	0	0	0	0.023891	0.018516	0.040146	0.758837
A	TOG_RESTL	0.032225	0.084861	0.042436	0.067776	0.001346	0.000463	0.000565	0.00006

A	TOG_RUNEX	0.01646	0.03565	0.02063	0.045676	0.173961	0.137975	0.07637	0.194568
A	TOG_RUNLS	0.039739	0.168764	0.065911	0.106023	0.317501	0.070668	0.026972	0.000452
A	TOG_STREX	0.100523	0.240674	0.122241	0.305659	0.310231	0.119744	0.478838	0.109301
S	CH4_IDLEX	0	0	0	0	0.005584	0.003604	0.015637	0.584797
S	CH4_RUNEX	0.005085	0.011015	0.006456	0.013215	0.0215	0.009131	0.007495	0.045056
S	CH4_STREX	0.005473	0.013019	0.006665	0.016646	0.019595	0.007599	0.054539	0.109452
S	CO_IDLEX	0	0	0	0	0.14797	0.121893	0.279854	1.865192
S	CO_RUNEX	0.71677	1.410461	0.886542	1.562726	1.239887	0.665097	0.513856	0.930041
S	CO_STREX	1.081461	2.439606	1.343365	2.752486	2.483678	1.120398	6.669843	2.720622
S	CO2_NBIO_IDLEX	0	0	0	0	9.172001	14.388616	145.510867	4895.398446
S	CO2_NBIO_RUNEX	285.724042	349.479849	396.237687	534.390989	702.13065	719.215263	1207.937319	1632.587763
S	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357	23.446982	62.077272	8.731573
S	NOX_IDLEX	0	0	0	0	0.084552	0.116517	0.619123	22.071313
S	NOX_RUNEX	0.050052	0.109339	0.07268	0.149485	1.672409	1.149924	1.561305	3.844747
S	NOX_STREX	0.076796	0.162201	0.125737	0.288851	0.96768	0.465701	10.285767	19.814154
S	PM10_IDLEX	0	0	0	0	0.000958	0.001348	0.000751	0.017167
S	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060614
S	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073	0.010789	0.012	0.035216
S	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491	0.017416	0.007354	0.01809
S	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974	0.000409	0.001017	0.000101
S	PM25_IDLEX	0	0	0	0	0.000917	0.00129	0.000719	0.016425
S	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025978
S	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518	0.002697	0.003	0.008804
S	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601	0.01664	0.007029	0.017308
S	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895	0.000376	0.000935	0.000092
S	ROG_DIURN	0.08969	0.258512	0.105861	0.163947	0.006218	0.002008	0.002751	0.000257
S	ROG_HTSK	0.128217	0.319926	0.137787	0.218174	0.118048	0.03772	0.057461	0.005801
S	ROG_IDLEX	0	0	0	0	0.017216	0.013934	0.027017	0.621749
S	ROG_RESTL	0.074749	0.198922	0.096552	0.152726	0.003159	0.001082	0.001427	0.00016
S	ROG_RUNEX	0.012844	0.027478	0.01603	0.035726	0.143366	0.118836	0.064149	0.13699
S	ROG_RUNLS	0.037772	0.158208	0.061893	0.099977	0.309737	0.068893	0.026342	0.00045
S	ROG_STREX	0.073809	0.175583	0.089893	0.224583	0.264261	0.102475	0.407101	0.092852
S	SO2_IDLEX	0	0	0	0	0.000092	0.00014	0.0014	0.046048
S	SO2_RUNEX	0.002863	0.003512	0.003969	0.005356	0.006893	0.006991	0.011609	0.015345
S	SO2_STREX	0.000612	0.000773	0.000851	0.001151	0.000363	0.000255	0.000738	0.000133
S	TOG_DIURN	0.08969	0.258512	0.105861	0.163947	0.006218	0.002008	0.002751	0.000257
S	TOG_HTSK	0.128217	0.319926	0.137787	0.218174	0.118048	0.03772	0.057461	0.005801

S	TOG_IDLEX	0	0	0	0	0.023891	0.018516	0.037394	0.715788
S	TOG_RESTL	0.074749	0.198922	0.096552	0.152726	0.003159	0.001082	0.001427	0.00016
S	TOG_RUNEX	0.018644	0.040006	0.023369	0.050819	0.176523	0.138526	0.077079	0.194769
S	TOG_RUNLS	0.037772	0.158208	0.061893	0.099977	0.309737	0.068893	0.026342	0.00045
S	TOG_STREX	0.08081	0.192236	0.09842	0.245837	0.289332	0.112197	0.445724	0.101661
W	CH4_IDLEX	0	0	0	0	0.005584	0.003604	0.018028	0.668816
W	CH4_RUNEX	0.004365	0.009625	0.005538	0.011458	0.020233	0.008856	0.007146	0.044958
W	CH4_STREX	0.007803	0.018781	0.009471	0.023726	0.022241	0.008549	0.062132	0.125042
W	CO_IDLEX	0	0	0	0	0.14797	0.121893	0.531697	3.52214
W	CO_RUNEX	0.579082	1.173222	0.719483	1.303232	1.188156	0.653692	0.494683	0.914669
W	CO_STREX	1.679629	3.847166	2.082919	4.249818	2.94066	1.313745	7.957721	3.251309
W	CO2_NBIO_IDLEX	0	0	0	0	9.172001	14.388616	126.14458	4245.738565
W	CO2_NBIO_RUNEX	257.917934	316.730783	358.456268	484.744591	702.13065	719.215263	1207.937319	1632.587763
W	CO2_NBIO_STREX	59.373167	73.06737	82.827606	110.27864	31.580357	23.446982	62.077272	8.731573
W	NOX_IDLEX	0	0	0	0	0.084552	0.116517	0.573167	20.445369
W	NOX_RUNEX	0.061137	0.135574	0.089224	0.183742	1.78601	1.218233	1.65776	4.055616
W	NOX_STREX	0.096076	0.202842	0.157287	0.361206	1.115633	0.530496	10.433746	19.852248
W	PM10_IDLEX	0	0	0	0	0.000958	0.001348	0.001084	0.023833
W	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060614
W	PM10_PMTW	0.008	0.008	0.008	0.008	0.010073	0.010789	0.012	0.035216
W	PM10_RUNEX	0.001816	0.002356	0.001652	0.001819	0.019491	0.017416	0.007354	0.01809
W	PM10_STREX	0.002352	0.003288	0.002232	0.002533	0.000974	0.000409	0.001017	0.000101
W	PM25_IDLEX	0	0	0	0	0.000917	0.00129	0.001038	0.022802
W	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025978
W	PM25_PMTW	0.002	0.002	0.002	0.002	0.002518	0.002697	0.003	0.008804
W	PM25_RUNEX	0.001675	0.002169	0.00152	0.001678	0.018601	0.01664	0.007029	0.017308
W	PM25_STREX	0.002163	0.003024	0.002052	0.002331	0.000895	0.000376	0.000935	0.000092
W	ROG_DIURN	0.011533	0.030704	0.015053	0.024102	0.000822	0.000285	0.000323	0.000032
W	ROG_HTSK	0.115517	0.285544	0.124349	0.199833	0.112223	0.035042	0.05151	0.005516
W	ROG_IDLEX	0	0	0	0	0.017216	0.013934	0.031107	0.710764
W	ROG_RESTL	0.014038	0.03663	0.018764	0.030171	0.000586	0.000206	0.000227	0.000023
W	ROG_RUNEX	0.011062	0.024041	0.013757	0.031927	0.140231	0.118157	0.063286	0.136748
W	ROG_RUNLS	0.046523	0.206769	0.080003	0.127715	0.352443	0.078736	0.030413	0.000497
W	ROG_STREX	0.105237	0.253298	0.127735	0.320109	0.299946	0.115288	0.463779	0.106077
W	SO2_IDLEX	0	0	0	0	0.000092	0.00014	0.001218	0.039937
W	SO2_RUNEX	0.002583	0.003181	0.00359	0.004857	0.006892	0.006991	0.011609	0.015345
W	SO2_STREX	0.000622	0.000798	0.000864	0.001178	0.000371	0.000258	0.00076	0.000142

W	TOG_DIURN	0.011533	0.030704	0.015053	0.024102	0.000822	0.000285	0.000323	0.000032
W	TOG_HTSK	0.115517	0.285544	0.124349	0.199833	0.112223	0.035042	0.05151	0.005516
W	TOG_IDLEX	0	0	0	0	0.023891	0.018516	0.043067	0.818284
W	TOG_RESTL	0.014038	0.03663	0.018764	0.030171	0.000586	0.000206	0.000227	0.000023
W	TOG_RUNEX	0.016044	0.034989	0.020053	0.045032	0.171949	0.137534	0.07582	0.194415
W	TOG_RUNLS	0.046523	0.206769	0.080003	0.127715	0.352443	0.078736	0.030413	0.000497
W	TOG_STREX	0.115218	0.277321	0.139852	0.350398	0.328403	0.126226	0.50778	0.116141

OBUS	UBUS	MCY	SBUS	MH
0.012516	0	0	0.927457	0
0.013444	0.23172	0.444966	0.006865	0.035336
0.031576	0.074129	0.167091	0.064414	0.026847
0.269766	0	0	1.996509	0
0.811727	4.477915	20.928313	0.424116	2.46589
6.419527	12.365266	10.154455	1.226024	6.176387
77.54154	0	0	1470.09661	0
1299.494909	1992.711484	171.863895	1256.670952	1227.102359
69.853005	151.44869	46.886292	8.752244	59.137886
0.374721	0	0	15.943637	0
1.538475	7.132497	1.171469	6.101011	1.619364
2.354509	12.358263	0.321253	19.47855	0.900528
0.000129	0	0	0.017303	0
0.13034	0.49144	0.01176	0.7448	0.13034
0.012	0.012	0.004	0.011768	0.012902
0.007002	0.139014	0.002017	0.034408	0.032363
0.000782	0.001177	0.004268	0.000138	0.001147
0.000124	0	0	0.016555	0
0.05586	0.210617	0.00504	0.3192	0.05586
0.003	0.003	0.001	0.002942	0.003225
0.006676	0.132965	0.001891	0.032917	0.030906
0.000719	0.001082	0.004034	0.000126	0.001054
0.00113	0.004787	0.890733	0.000331	0.845151
0.018363	0.09119	0.790359	0.003378	0.076624
0.036563	0	0	0.2359	0
0.000554	0.002528	0.569283	0.000157	0.322154
0.072447	0.479665	2.343084	0.12455	0.113589
0.039594	0.020877	0.659598	0.001553	0.020083
0.400094	0.999709	2.280984	0.061856	0.36206
0.000752	0	0	0.014071	0
0.012733	0.018221	0.002128	0.012007	0.012187
0.000811	0.001739	0.000702	0.000109	0.000699
0.00113	0.004787	0.890733	0.000331	0.845151
0.018363	0.09119	0.790359	0.003378	0.076624
0.050648	0	0	0.31796	0
0.000554	0.002528	0.569283	0.000157	0.322154

0.091516	0.75107	2.873049	0.142759	0.156274
0.039594	0.020877	0.659598	0.001553	0.020083
0.438053	1.094556	2.481275	0.067724	0.396411
0.012492	0	0	0.924381	0
0.013867	0.235534	0.429218	0.006912	0.037406
0.029259	0.063906	0.13633	0.052173	0.024768
0.259608	0	0	1.796842	0
0.83543	4.555758	20.102753	0.426658	2.586368
5.774077	9.650039	8.869765	0.845571	5.523668
81.13072	0	0	1554.872739	0
1299.494909	1992.711484	171.863895	1256.670952	1227.102359
69.853005	151.44869	46.886292	8.752244	59.137886
0.386698	0	0	16.456091	0
1.46606	6.825237	1.024038	5.864339	1.521677
2.272242	12.22338	0.291363	19.47117	0.832256
0.000109	0	0	0.014587	0
0.13034	0.49144	0.01176	0.7448	0.13034
0.012	0.012	0.004	0.011768	0.012902
0.007002	0.139014	0.002017	0.034408	0.032363
0.000782	0.001177	0.004268	0.000138	0.001147
0.000104	0	0	0.013956	0
0.05586	0.210617	0.00504	0.3192	0.05586
0.003	0.003	0.001	0.002942	0.003225
0.006676	0.132965	0.001891	0.032917	0.030906
0.000719	0.001082	0.004034	0.000126	0.001054
0.002796	0.012224	2.637733	0.000833	2.185759
0.019948	0.106087	1.108912	0.003586	0.08745
0.036077	0	0	0.231184	0
0.001303	0.005953	1.755431	0.000378	0.786903
0.073494	0.489106	2.240304	0.124666	0.118712
0.038627	0.019308	0.62564	0.001336	0.019658
0.370737	0.861848	1.860862	0.0501	0.334028
0.000786	0	0	0.01488	0
0.012733	0.018223	0.002112	0.012007	0.012189
0.0008	0.001692	0.000668	0.000102	0.000688
0.002796	0.012224	2.637733	0.000833	2.185759
0.019948	0.106087	1.108912	0.003586	0.08745

0.050095	0	0	0.312591	0
0.001303	0.005953	1.755431	0.000378	0.786903
0.093043	0.764846	2.751124	0.142928	0.16375
0.038627	0.019308	0.62564	0.001336	0.019658
0.405911	0.943616	2.024382	0.054854	0.365719
0.012549	0	0	0.931705	0
0.01311	0.229022	0.464618	0.006829	0.033816
0.033345	0.082711	0.197164	0.073227	0.028516
0.283793	0	0	2.27224	0
0.793555	4.42118	22.905848	0.422215	2.376958
6.94427	14.826625	11.679387	1.531758	6.737043
72.585052	0	0	1353.024812	0
1299.494909	1992.711484	171.863895	1256.670952	1227.102359
69.853005	151.44869	46.886292	8.752244	59.137886
0.35818	0	0	15.235963	0
1.573452	7.26295	1.263414	6.198108	1.671779
2.428774	12.471004	0.346215	19.484213	0.962104
0.000157	0	0	0.021055	0
0.13034	0.49144	0.01176	0.7448	0.13034
0.012	0.012	0.004	0.011768	0.012902
0.007002	0.139014	0.002017	0.034408	0.032363
0.000782	0.001177	0.004268	0.000138	0.001147
0.00015	0	0	0.020144	0
0.05586	0.210617	0.00504	0.3192	0.05586
0.003	0.003	0.001	0.002942	0.003225
0.006676	0.132965	0.001891	0.032917	0.030906
0.000719	0.001082	0.004034	0.000126	0.001054
0.000484	0.001671	0.170614	0.000135	0.26743
0.018662	0.104044	0.920025	0.003506	0.089714
0.037233	0	0	0.242412	0
0.00026	0.001117	0.169538	0.000072	0.136806
0.071623	0.472989	2.466197	0.124461	0.109829
0.043351	0.025729	0.774719	0.001982	0.021577
0.422507	1.115451	2.69179	0.070318	0.384576
0.000705	0	0	0.012954	0
0.012733	0.01822	0.002164	0.012007	0.012185
0.00082	0.001781	0.00074	0.000114	0.000709

0.000484	0.001671	0.170614	0.000135	0.26743
0.018662	0.104044	0.920025	0.003506	0.089714
0.051411	0	0	0.325374	0
0.00026	0.001117	0.169538	0.000072	0.136806
0.090312	0.741328	3.019951	0.142629	0.150788
0.043351	0.025729	0.774719	0.001982	0.021577
0.462592	1.221278	2.927996	0.07699	0.421062

tblRoadDust

RoadPercentPave	RoadSiltLoading	MaterialSiltContent	MaterialMoistureContent	MobileAverageVehicleWeight	MeanVehicleSpeed
100	0.1	4.3	0.5	2.4	40

CARB_PM_VMT
0

tblWoodstoves

WoodstovesLandUseSubType	NumberConventional	NumberCatalytic	NumberNoncatalytic	NumberPellet	WoodstoveDayYear
Congregate Care (Assisted Living)	0	1.08	1.08	0	14.12

WoodstoveWoodMass
0

tblFireplaces

FireplacesLandUseSubType	NumberWood	NumberGas	NumberPropane	NumberNoFireplace	FireplaceHourDay
Congregate Care (Assisted Living)	0	17.28	0	2.16	3.5

FireplaceDayYear	FireplaceWoodMass
11.14	0

ROG_EF	ROG_EF_Degreaser	ROG_EF_PesticidesFertilizers
0.0000214	3.542E-07	5.152E-08

Area_EF_Residential_Interior	Area_Residential_Interior	Area_EF_Residential_Exterior	Area_Residential_Exterior
100	46557	150	15519

tblAreaCoating

Area_EF_Nonresidential_Interior	Area_Nonresidential_Interior	Area_EF_Nonresidential_Exterior	Area_Nonresidential_Exterior
100	17475	150	5825

ReapplicationRatePercent	Area_EF_Parking	Area_Parking
10	150	1464

NumberSnowDays	NumberSummerDays
0	180

tblEnergyUse

EnergyUseLandUseSubType	T24E	NT24E	LightingElect	T24NG	NT24NG
Congregate Care (Assisted Living)	332.81	3054.1	741.44	5484.45	3155
Elementary School	1.56	1.28	2.55	17.51	0.93
Parking Lot	0	0	0.35	0	0

tblWater

WaterLandUseSubType	WaterLandUseSizeMetric	IndoorWaterUseRate	OutdoorWaterUseRate
Congregate Care (Assisted Living)	Dwelling Unit	3518317.38	2218069.65
Elementary School	Student	472726.8	1215583.2
Parking Lot	Space	0	0

ElectricityIntensityFactorToSupply	ElectricityIntensityFactorToTreat	ElectricityIntensityFactorToDistribute
2117	111	1272
2117	111	1272
2117	111	1272

ElectricityIntensityFactorForWastewaterTreatment	SepticTankPercent	AerobicPercent	AnaerobicandFacultativeLagoonsPercent
1911	0	100	0
1911	0	100	0
1911	0	100	0

AnaDigestCombDigestGasPercent	AnaDigestCogenCombDigestGasPercent
100	0
100	0
100	0

SolidWasteLandUseSubType	SolidWasteLandUseSizeMetric	SolidWasteGenerationRate	LandfillNoGasCapture
Congregate Care (Assisted Living)	Dwelling Unit	49.27	6
Elementary School	Student	35.59	6
Parking Lot	Space	0	6

LandfillCaptureGasFlare	LandfillCaptureGasEnergyRecovery
94	0
94	0
94	0

tblLandUseChange

VegetationLandUseType	VegetationLandUseSubType	AcresBegin	AcresEnd	CO2peracre

tblSequestration

BroadSpeciesClass	NumberOfNewTrees	CO2perTree

tblConstEquipMitigation

ConstMitigationEquipmentType	FuelType	Tier	NumberOfEquipmentMitigated	TotalNumberOfEquipmentMitigated	DPF
Air Compressors	Diesel	Tier 3	1	1	Level 3
Cement and Mortar Mixers	Diesel	Tier 3	1	1	Level 3
Concrete/Industrial Saws	Diesel	Tier 3	1	1	Level 3
Cranes	Diesel	Tier 3	1	1	Level 3
Forklifts	Diesel	Tier 3	2	2	Level 3
Generator Sets	Electrical	Tier 3	1	1	Level 3
Graders	Diesel	Tier 3	2	2	Level 3
Pavers	Diesel	Tier 3	1	1	Level 3
Paving Equipment	Diesel	Tier 3	1	1	Level 3
Rollers	Diesel	Tier 3	2	2	Level 3
Rubber Tired Dozers	Diesel	Tier 3	2	2	Level 3
Scrapers	Diesel	Tier 3	1	1	Level 3
Tractors/Loaders/Backhoes	Diesel	Tier 3	8	8	Level 3
Welders	Diesel	Tier 3	3	3	Level 3

OxidationCatalyst
0
0
0
0
0
0
0
0
0
0
0
0
0
0

tblConstDustMitigation

SoilStabilizerCheck	SoilStabilizerPM10PercentReduction	SoilStabilizerPM25PercentReduction	ReplaceGroundCoverCheck
1	0	50	1

tblConstDustMitigation

ReplaceGroundCoverPM10PercentReduction	ReplaceGroundCoverPM25PercentReduction	WaterExposedAreaCheck
0	50	1

WaterExposedAreaFrequency	WaterExposedAreaPM10PercentReduction	WaterExposedAreaPM25PercentReduction
2	55	55

WaterUnpavedRoadMoistureContentCheck	WaterUnpavedRoadVehicleSpeedCheck	WaterUnpavedRoadMoistureContent
0	1	0

WaterUnpavedRoadVehicleSpeed	CleanPavedRoadPercentReduction
15	0

ProjectSetting	IncreaseDensityCheck	IncreaseDensityDUPerAcre	IncreaseDensityJobPerAcre	IncreaseDiversityCheck

ImproveWalkabilityDesignCheck	ImproveWalkabilityDesignIntersections	ImproveDestinationAccessibilityCheck

ImproveDestinationAccessibilityDistance IncreaseTransitAccessibilityCheck IncreaseTransitAccessibilityDistance

IntegrateBelowMarketRateHousingCheck	IntegrateBelowMarketRateHousingDU	ImprovePedestrianNetworkCheck

ImprovePedestrianNetworkSelection	ProvideTrafficCalmingMeasuresCheck	ProvideTrafficCalmingMeasuresPercentStreet

ProvideTrafficCalmingMeasuresPercentIntersection	ImplementNEVNetworkCheck	LimitParkingSupplyCheck

LimitParkingSupplySpacePercentReduction	UnbundleParkingCostCheck	UnbundleParkingCostCost	OnStreetMarketPricingCheck

OnStreetMarketPricingPricePercentIncrease	ProvideBRTSystemCheck	ProvideBRTSystemPercentBRT	ExpandTransitNetworkCheck

ExpandTransitNetworkTransitCoveragePercentIncrease	IncreaseTransitFrequencyCheck	IncreaseTransitFrequencyImplementationLevel

IncreaseTransitFrequencyHeadwaysPercentReduction

tblCommuteMitigation

ImplementTripReductionProgramCheck	ImplementTripReductionProgramPercentEmployee	ImplementTripReductionProgramType
	0	

tblCommuteMitigation

TransitSubsidyCheck	TransitSubsidyPercentEmployee	TransitSubsidyDailySubsidyAmount	ImplementEmployeeParkingCashOutCheck
0			0

tblCommuteMitigation

ImplementEmployeeParkingCashOutPercentEmployee	WorkplaceParkingChargeCheck	WorkplaceParkingChargePercentEmployee
		0

WorkplaceParkingChargeCost	EncourageTelecommutingCheck	EncourageTelecommutingPercentEmployee9_80
		0

EncourageTelecommutingPercentEmployee4_40 EncourageTelecommutingPercentEmployee1_5days

tblCommuteMitigation

MarketCommuteTripReductionOptionCheck	MarketCommuteTripReductionOptionPercentEmployee	EmployeeVanpoolCheck
0		0

tblCommuteMitigation

EmployeeVanpoolPercentEmployee	EmployeeVanpoolPercentModeShare	ProvideRideSharingProgramCheck
	2	0

tblCommuteMitigation

ProvideRideSharingProgramPercentEmployee	ImplementSchoolBusProgramCheck	ImplementSchoolBusProgramPercentFamilyUsing
		0

LandscapeLawnmowerCheck	LandscapeLawnmowerPercentElectric	LandscapeLeafblowerCheck	LandscapeLeafblowerPercentElectric
	0		0

LandscapeChainsawCheck	LandscapeChainsawPercentElectric	UseLowVOCPaintResidentialInteriorCheck
0		0

UseLowVOCPaintResidentialInteriorValue	UseLowVOCPaintResidentialExteriorCheck	UseLowVOCPaintResidentialExteriorValue
100	0	150

tblAreaMitigation

UseLowVOCPaintNonresidentialInteriorCheck	UseLowVOCPaintNonresidentialInteriorValue	UseLowVOCPaintNonresidentialExteriorCheck
0	100	0

UseLowVOCPaintNonresidentialExteriorValue	HearthOnlyNaturalGasHearthCheck	NoHearthCheck	UseLowVOCCleaningSuppliesCheck
150	0	0	0

UseLowVOCPaintParkingCheck	UseLowVOCPaintParkingValue
0	150

tblEnergyMitigation

ExceedTitle24Check	ExceedTitle24CheckPercentImprovement	InstallHighEfficiencyLightingCheck

tblEnergyMitigation

InstallHighEfficiencyLightingPercentEnergyReduction	OnSiteRenewableEnergyCheck	KwhGeneratedCheck	KwhGenerated

PercentOfElectricityUseGeneratedCheck	PercentOfElectricityUseGenerated

tblApplianceMitigation

ApplianceType	ApplianceLandUseSubType	PercentImprovement
ClothWasher		30
DishWasher		15
Fan		50
Refrigerator		15

ApplyWaterConservationStrategyCheck	ApplyWaterConservationStrategyPercentReductionIndoor
	0

tblWaterMitigation

ApplyWaterConservationStrategyPercentReductionOutdoor	UseReclaimedWaterCheck	PercentOutdoorReclaimedWaterUse
		0

tblWaterMitigation

PercentIndoorReclaimedWaterUse	UseGreyWaterCheck	PercentOutdoorGreyWaterUse	PercentIndoorGreyWaterUse
		0	

InstallLowFlowBathroomFaucetCheck	PercentReductionInFlowBathroomFaucet	InstallLowFlowKitchenFaucetCheck
0	32	0

PercentReductionInFlowKitchenFaucet	InstallLowFlowToiletCheck	PercentReductionInFlowToilet	InstallLowFlowShowerCheck
18	0	20	0

PercentReductionInFlowShower	TurfReductionCheck	TurfReductionTurfArea	TurfReductionPercentReduction
20	0		

tblWaterMitigation

UseWaterEfficientIrrigationSystemCheck	UseWaterEfficientIrrigationSystemPercentReduction	WaterEfficientLandscapeCheck	MAWA
0	6.1	0	

ETWU

InstituteRecyclingAndCompostingServicesCheck	InstituteRecyclingAndCompostingServicesWastePercentReduction

tblOperationalOffRoadEquipment

OperOffRoadEquipmentType	OperOffRoadEquipmentNumber	OperHoursPerDay	OperDaysPerYear	OperHorsePower	OperLoadFactor

OperFuelType

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS
Congregate Care (Assisted Living)	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.00181
Elementary School	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.00181
Parking Lot	0.582298	0.039109	0.186022	0.123408	0.017184	0.005083	0.010615	0.023794	0.001605	0.00181

MCY	SBUS	MH
0.005454	0.002746	0.000871
0.005454	0.002746	0.000871
0.005454	0.002746	0.000871

tblStationaryGeneratorsPumpsUse

GeneratorsPumpsEquipmentType	NumberOfEquipment	GeneratorsPumpsFuelType	HorsePowerValue	Load_Factor	HoursPerDay

HoursPerYear	GeneratorsPumpsEquipmentDescription

tblStationaryBoilersUse

BoilerEquipmentType	NumberOfEquipment	BoilerFuelType	BoilerRatingValue	DailyHeatInput	AnnualHeatInput

BoilerEquipmentDescription

tblStationaryUserDefined

UserDefinedEquipmentType	UserDefinedFuelTypes	TOG_lb_day	TOG_tpy	ROG_lb_day	ROG_tpy	CO_lb_day	CO_tpy	NOX_lb_day

NOX_tpy	SO2_lb_day	SO2_tpy	PM10_lb_day	PM10_tpy	PM2_5_lb_day	PM2_5_tpy	CO2_lb_day	CO2_tpy	CH4_lb_day	CH4_tpy

tblStationaryGeneratorsPumpsEF

GeneratorsPumpsEquipmentDescriptionEF	TOG_EF	TOG_EF_UOM	ROG_EF	ROG_EF_UOM	CO_EF	CO_EF_UOM	NOX_EF

NOX_EF_UOM	SO2_EF	SO2_EF_UOM	PM10_EF	PM10_EF_UOM	PM2_5_EF	PM2_5_EF_UOM	CO2_EF	CO2_EF_UOM	CH4_EF

CH4_EF_UOM

tblStationaryBoilersEF

BoilerEquipmentDescriptionEF	TOG_EF	TOG_EF_UOM	ROG_EF	ROG_EF_UOM	CO_EF	CO_EF_UOM	NOX_EF	NOX_EF_UOM

SO2_EF	SO2_EF_UOM	PM10_EF	PM10_EF_UOM	PM2_5_EF	PM2_5_EF_UOM	CO2_EF	CO2_EF_UOM	CH4_EF	CH4_EF_UOM

tblRemarks

SubModuleID	PhaseName	Season	Remarks
1			PG&E 2020 rate
3			Client emails and plans
4			Default Schedule
5	Architectural Coating		
5	Building Construction		Crane = 2 hours/day
5	Demolition		Demo pavement for school
5	Grading		
5	Paving		
5	Site Preparation		default equipment
6			302 one way concrete trips for const.; 40 one way paving trips; TAC 1 mile trips
8			277 tons at school expansion
9			balanced site
12			memory care 3.06, 2.46 Sat, 2.72 Sun; school 4.1
15			all gas no wood
21			100% aerobic
25			Temp. Line power generator; BMPs Tier 3 DPF 3

Attachment 3: Screening Community Risk Calculations

I-680 Exposures

Link 9 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	1.102	144.495	0.131	0.096
25 ft W	0.936	123.276	0.112	0.086
50 ft W	0.763	101.144	0.091	0.075
75 ft W	0.655	87.240	0.078	0.067
100 ft W	0.580	77.463	0.070	0.060
200 ft W	0.411	55.343	0.049	0.043
300 ft W	0.324	43.770	0.039	0.034
400 ft W	0.268	36.369	0.032	0.029
500 ft W	0.230	31.176	0.027	0.025
750 ft W	0.169	23.021	0.020	0.020
1000 ft W	0.133	18.142	0.016	0.016
10 ft E	1.439	174.641	0.165	0.092
25 ft E	1.244	150.883	0.143	0.077
50 ft E	1.021	124.058	0.117	0.065
75 ft E	0.871	106.175	0.100	0.057
100 ft E	0.764	93.363	0.088	0.051
200 ft E	0.525	64.741	0.060	0.038
300 ft E	0.408	50.554	0.047	0.031
400 ft E	0.337	41.864	0.039	0.025
500 ft E	0.287	35.868	0.033	0.021
750 ft E	0.212	26.606	0.024	0.017
1000 ft E	0.168	21.160	0.019	0.014

Church of the Valley Memory Care and Education Facilities Project in San Ramon, CA

Screening Community Risk Assessment - Adult Senior Exposures

Source	Exposure Duration (hours)	BAAQMD Screening Tools: Screening Risk (per million)	BAAQMD Screening Tools: Screening PM2.5 ($\mu g/m^3$)	Adjusted for Exposure*: Lifetime Cancer Risk for Elderly living in Assisted Care (per million)
I-680 (Link 9, 6ft, at 400 feet)	Adult 24	36.37	0.27	**7.92**
San Ramon Blvd. at 270 feet (18,480 ADT)	Adult 24	2.02	0.05	**0.44**
Cumulative Levels				**8.36**

* Adjustments

Breathing rate adjustment (CR)	0.86	, where old lifetime risk = 302, new OEHHA = 261 L/kg-day
Age sensitivity factor (CR)	0.59	, lifetime risk = 1.7 and adult =1
Exposure duration (hrs/day) (CR)	1.00	, lifetime = 24 hours and care facility = 24 hours
Exposure duration (days/year) (CR)	1.00	, where lifetime risk = 350 days, care facility = 350
Exposure duration (years) (CR)	0.429	, where lifetime risk = 70 years, facility = 30 years.

Church of the Valley Memory Care and Education Facilities Project in San Ramon, CA

Screening Community Risk Assessment - Elementary-Age Student Exposures

Source	Daily Exposure Duration (hours)	BAAQMD Screening Tools: Screening Risk (per million)	BAAQMD Screening Tools: Screening PM2.5 ($\mu g/m^3$)	Adjusted for Exposure*: Lifetime Cancer Risk for Students attending Elementary School (per million)
I-680 (Link 9, 6ft, at 400 feet)	infant 1.5yrs	36.37	0.27	**4.9**
I-680 (Link 9, 6ft, at 400 feet)	child 2yrs	36.37	0.27	**1.1**
I-680 (Link 9, 6ft, at 400 feet)	child 10 yrs	36.37	0.27	**4.1**
				10.2
San Ramon Blvd. at 300 feet (18,480 ADT)	infant 2yrs	1.81	0.05	**0.25**
San Ramon Blvd. at 300 feet (18,480 ADT)	child 2yrs	1.81	0.05	**0.06**
San Ramon Blvd. at 300 feet (18,480 ADT)	child 11 yrs	1.81	0.05	**0.20**
				0.51
Cumulative Levels			0.31	**15.29**

* Adjustments

Infants

Breathing rate adjustment (CR)	3.61	, where old lifetime risk = 302, new OEHHA = 1090 L/kg-day
Age sensitivity factor (CR)	5.88	, lifetime risk = 1.7 and infant = 10
Exposure duration (hrs/day) (CR)	0.42	, lifetime = 24 hours and school = 10 hours
Exposure duration (days/year) (CR)	0.71	, where lifetime risk = 350 days, daycare = 250
Exposure duration (years) (CR)	0.021	, where lifetime risk = 70 years, daycare = 1.5 years.

Church of the Valley Memory Care and Education Facilities Project in San Ramon, CA

Screening Community Risk Assessment - Onsite Preschool-Age Student Exposures

		BAAQMD Screening Tools		Adjusted for Exposure*
Source	**Daily Exposure Duration (hours)**	**Screening Risk (per million)**	**Screening PM2.5 ($\mu g/m^3$)**	**Lifetime Cancer Risk for Students attending Onsite Preschool (per million)**
I-680 (Link 9, 6ft, at 300 feet)	child 2yrs	43.77	0.32	**1.4**
San Ramon Blvd. at 95 feet (18,480 ADT)	child 2yrs	4.40	0.11	**0.14**
Cumulative Levels			0.44	**0.14**

* Adjustments

Preschool Children

Breathing rate adjustment (CR)	2.09	, where old lifetime risk = 302, new OEHHA = 631 L/kg-day
Age sensitivity factor (CR)	1.76	, lifetime risk = 1.7 and child = 3
Exposure duration (hrs/day) (CR)	0.42	, lifetime = 24 hours and school = 10 hours
Exposure duration (days/year) (CR)	0.71	, where lifetime risk = 350 days, preschool = 250
Exposure duration (years) (CR)	0.029	, where lifetime risk = 70 years, preschool child = 2 years.

Attachment 4: Construction Health Risk Calculations

Church of the Valley, San Ramon, CA

DPM Emissions and Modeling Emission Rates - Without Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2019-2020	Construction	0.0479	DPM_N	95.7	0.02914	3.67E-03	3,902	9.41E-07
	Construction	0.0730	DPM_S	146.0	0.04443	5.60E-03	5,951	9.41E-07
		0.1208		241.7	0.07357	9.27E-03	9,853	

Operation Hours

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

PM2.5 Fugitive Dust Emissions for Modeling - Without Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2019-2020	Construction	FUG_N	0.0049	9.8	0.00299	3.77E-04	3,902	9.66E-08
	Construction	FUG_S	0.0075	15.0	0.00456	5.75E-04	5,951	9.66E-08
			0.0124	24.8	7.56E-03	9.52E-04	9,853	

Operation Hours

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

DPM Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2019-2020	Construction	0.0043	DPM_N	8.7	0.00264	3.33E-04	3,902	8.53E-08
	Construction	0.0066	DPM_S	13.2	0.00403	5.08E-04	5,951	8.53E-08
		0.0110		21.9	0.00667	8.41E-04	9,853	

Operation Hours

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

PM2.5 Fugitive Dust Emissions for Modeling - With Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2019-2020	Construction	FUG_N	0.0016	3.2	0.00098	1.24E-04	3,902	3.17E-08
	Construction	FUG_S	0.0025	4.9	0.00150	1.89E-04	5,951	3.17E-08
			0.0041	8.1	2.48E-03	3.12E-04	9,853	

Operation Hours

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

Church of the Valley, San Ramon, CA
Construction Health Impacts Summary

Maximum Residential Impacts at Construction MEI Location - Unmitigated

Emissions Year	Maximum Concentrations Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Child	Cancer Risk (per million) Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2020	0.2402	0.0260	**39.5**	**0.7**	**0.05**	**0.27**

Maximum Residential Impacts at Construction MEI Location - Mitigated

Emissions Year	Maximum Concentrations Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Child	Cancer Risk (per million) Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2020	0.0219	0.0085	**3.6**	**0.06**	**0.004**	**0.03**

Maximum Impacts at On-Site Preschool MEI Location - Unmitigated

Emissions Year	Maximum Concentrations Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations Fugitive PM2.5 ($\mu g/m^3$)	Preschool Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2020	0.2888	0.0806	**8.2**	**0.06**	**0.37**

Maximum Impacts at On-Site Preschool MEI Location - Mitigated

Emissions Year	Maximum Concentrations Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations Fugitive PM2.5 ($\mu g/m^3$)	Preschool Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2020	0.0262	0.0264	**0.7**	**0.005**	**0.05**

Church of the Valley, San Ramon, CA - without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors-1.5 meter

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		
							Modeled					
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m^3) Year**	**DPM Conc (ug/m^3) Annual**	**Age Sensitivity Factor**	**Cancer Risk (per million)**	**DPM Conc (ug/m^3) Year**	**DPM Conc (ug/m^3) Annual**	**Age Sensitivity Factor**	**Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.2019	10	33.16	2019	0.2019	1	0.58	0.0351	0.24
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
4	1	3 - 4	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
5	1	4 - 5	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
6	1	5 - 6	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
7	1	6 - 7	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
8	1	7 - 8	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
9	1	8 - 9	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
10	1	9 - 10	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
11	1	10 - 11	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
12	1	11 - 12	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
13	1	12 - 13	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
14	1	13 - 14	2032	0.0000	3	0.00	2032	0.0000	1	0.00		
15	1	14 - 15	2033	0.0000	3	0.00	2033	0.0000	1	0.00		
16	1	15 - 16	2034	0.0000	3	0.00	2034	0.0000	1	0.00		
17	1	16-17	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
18	1	17-18	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
19	1	18-19	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
20	1	19-20	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
21	1	20-21	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
22	1	21-22	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
23	1	22-23	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
24	1	23-24	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
25	1	24-25	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
26	1	25-26	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
27	1	26-27	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
28	1	27-28	2046	0.0000	1	0.00	2046	0.0000	1	0.00		
29	1	28-29	2047	0.0000	1	0.00	2047	0.0000	1	0.00		
30	1	29-30	2048	0.0000	1	0.00	2048	0.0000	1	0.00		
Total Increased Cancer Risk						**33.2**				**0.6**		

* Third trimester of pregnancy

Church of the Valley, San Ramon, CA - without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors-4.5 meter

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		
					Age	Cancer	Modeled		Age	Cancer		
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m^3) Year**	**DPM Conc (ug/m^3) Annual**	**Sensitivity Factor**	**Risk (per million)**	**DPM Conc (ug/m^3) Year**	**DPM Conc (ug/m^3) Annual**	**Sensitivity Factor**	**Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.2402	10	39.45	2019	0.2402	1	0.69	0.0260	0.266
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
4	1	3 - 4	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
5	1	4 - 5	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
6	1	5 - 6	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
7	1	6 - 7	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
8	1	7 - 8	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
9	1	8 - 9	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
10	1	9 - 10	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
11	1	10 - 11	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
12	1	11 - 12	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
13	1	12 - 13	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
14	1	13 - 14	2032	0.0000	3	0.00	2032	0.0000	1	0.00		
15	1	14 - 15	2033	0.0000	3	0.00	2033	0.0000	1	0.00		
16	1	15 - 16	2034	0.0000	3	0.00	2034	0.0000	1	0.00		
17	1	16-17	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
18	1	17-18	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
19	1	18-19	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
20	1	19-20	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
21	1	20-21	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
22	1	21-22	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
23	1	22-23	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
24	1	23-24	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
25	1	24-25	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
26	1	25-26	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
27	1	26-27	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
28	1	27-28	2046	0.0000	1	0.00	2046	0.0000	1	0.00		
29	1	28-29	2047	0.0000	1	0.00	2047	0.0000	1	0.00		
30	1	29-30	2048	0.0000	1	0.00	2048	0.0000	1	0.00		
Total Increased Cancer Risk						**39.5**				**0.69**		

* Third trimester of pregnancy

Church of the Valley, San Ramon, CA - with Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors-4.5 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 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		
							Modeled					
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m^3) Year**	**DPM Conc (ug/m^3) Annual**	**Age Sensitivity Factor**	**Cancer Risk (per million)**	**DPM Conc (ug/m^3) Year**	**DPM Conc (ug/m^3) Annual**	**Age Sensitivity Factor**	**Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0219	10	3.60	2019	0.0219	1	0.06	0.0085	0.030
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
4	1	3 - 4	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
5	1	4 - 5	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
6	1	5 - 6	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
7	1	6 - 7	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
8	1	7 - 8	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
9	1	8 - 9	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
10	1	9 - 10	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
11	1	10 - 11	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
12	1	11 - 12	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
13	1	12 - 13	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
14	1	13 - 14	2032	0.0000	3	0.00	2032	0.0000	1	0.00		
15	1	14 - 15	2033	0.0000	3	0.00	2033	0.0000	1	0.00		
16	1	15 - 16	2034	0.0000	3	0.00	2034	0.0000	1	0.00		
17	1	16-17	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
18	1	17-18	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
19	1	18-19	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
20	1	19-20	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
21	1	20-21	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
22	1	21-22	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
23	1	22-23	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
24	1	23-24	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
25	1	24-25	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
26	1	25-26	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
27	1	26-27	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
28	1	27-28	2046	0.0000	1	0.00	2046	0.0000	1	0.00		
29	1	28-29	2047	0.0000	1	0.00	2047	0.0000	1	0.00		
30	1	29-30	2048	0.0000	1	0.00	2048	0.0000	1	0.00		
Total Increased Cancer Risk						**3.6**				**0.06**		

* Third trimester of pregnancy

Church of the Valley, San Ramon, CA - without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Church Preschool 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
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FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

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	2018	0.2888	3	**8.2**	0.0806	0.369

* Students assumed to be from 2 to 9 years of age

Church of the Valley, San Ramon, CA - with Mitigation
Maximum DPM Cancer Risk Calculations From Construction - With Mitigation
Church Preschool 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 $(mg/kg\text{-}day)^{-1}$
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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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DBR* =	361	1090	631	572	261
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AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Student - Exposure Information: DPM Conc (ug/m3) Year	Annual	Age* Sensitivity Factor	Student Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
1	1	2018	0.0262	3	**0.75**	0.0264	0.053

* Students assumed to be from 2 to 9 years of age