HERITAGE HOUSE & VALLE VERDE AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Napa, California

October 5, 2018
Revised March 20, 2019

Prepared for:

Natalie Noyes, AICP
Project Manager
David J. Powers & Associates, Inc.
1611 Telegraph Avenue, Ste. 1002
Oakland, CA 94612

Prepared by:

James A. Reyff
Casey T. Zaglin
Bill Popenuck

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 East Cotati Avenue
Cotati, CA 94931
(707) 794-0400

Project: 18-109

Introduction

The purpose of this report is to address community risk and greenhouse gas (GHG) impacts associated with a new multi-family residential project proposed at 3700 and 3710 Valle Verde Drive in Napa, California. The issue addressed in this air quality study is localized community risk due to construction and GHG emissions from the project. This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project proposes to renovate and convert the former three-story assisted living facility into the 38,770 square foot (s.f.) Heritage House, which would include 24 one-bedroom units and 66 single-room occupancies. The new 25,785 s.f., three-story, multi-family Valle Verde building would be located north of the existing building and include 16 two-bedroom units and eight three-bedroom units. There would be a total of 85 parking spaces provided for both buildings.

Setting

The project is located in Napa 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 ($PM_{2.5}$).

Toxic Air Contaminants

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

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

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.
[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* Office of Environmental Health Hazard Assessment. February.

description of the community risk modeling methodology used in this assessment.

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

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

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are residents in townhomes across from the construction site, to the west on Valle Verde Drive, with additional residences in the nearby area surrounding the project site. The project would include sensitive receptors.

Significance Thresholds

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

[3] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: June 9, 2015.
[4] BAAQMD, 2011, *op. cit.*

Table 1. Community Risk Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
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	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10.0 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions		Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) and adjusted to 2.6 metric tons per capita (for 2030)*	

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. GHG = greenhouse gases.

*BAAQMD does not have a recommended post-2020 GHG threshold.

Criteria Air Pollutants

The Federal Clean Air Act governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. At the Federal level, the United States Environmental Protection Agency (USEPA) administers the Clean Air Act (CAA). The California Clean Air Act is administered by the California Air Resources Board (CARB) at the State level and by the Air Quality Management Districts at the regional and local levels. The Bay Area Air Quality Management District (BAAQMD) regulates air quality at the regional level, which includes the nine-county Bay Area.

The federal Clean Air Act requires each state to identify areas that have ambient air quality in violation of federal standards. States are required to develop, adopt, and implement a state implementation plan (SIP) to achieve, maintain, and enforce federal ambient air quality standards in these nonattainment areas. SIP elements are developed on a pollutant-by-pollutant basis whenever one or more air quality standards are being violated. In California, local and regional air pollution control agencies have primary responsibility for developing SIPs, generally in coordination with local and regional land use and transportation planning agencies. The Bay Area Air Quality Management District (BAAQMD) is the responsible regional air pollution control agency in the San Francisco Bay Area.

An area's compliance with national ambient air quality standards under the Clean Air Act is categorized as nonattainment, attainment (better than national standards), unclassifiable, or attainment/cannot be classified. The unclassified designation includes attainment areas that comply with federal standards, as well as areas for which monitoring data are lacking. Unclassified areas are treated as attainment areas for most regulatory purposes. Simple attainment designations generally are used only for areas that transition from nonattainment status to attainment status. Areas that have been reclassified from nonattainment to attainment of federal air quality standards are automatically considered maintenance areas, although this designation is seldom noted in status listings. The San Francisco Bay Area is designated as nonattainment for the federal 8-hour ozone standard and the 24-hour fine particulate matter ($PM_{2.5}$) standard. The San Francisco Bay Area is designated as attainment or unclassified for the other national ambient air quality standards.

With respect to the state ambient air quality standards, California classifies areas as attainment, nonattainment, nonattainment-transitional, or unclassified. The San Francisco Bay Area is designated as nonattainment for the state ozone, inhalable particulate matter (PM_{10}) and $PM_{2.5}$ standards and as attainment or unclassified for the other state ambient air quality standards. The predominant regulation that guides assessment of air quality impacts of federal actions is the General Conformity Rule, established under the Clean Air Act (Section 176(c)(4)). The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality. The project area is located within the San Francisco Bay Area Air Basin, which is designated as a nonattainment area for the federal 8-hour ozone standard and the federal fine particulate matter ($PM_{2.5}$) standard. The air basin is designated as a maintenance area with respect to the federal carbon monoxide (CO) standards.

In keeping with the General Conformity Rule process, this assessment applies the appropriate *de minimis* thresholds of the Rule as they apply to the San Francisco Bay Area Air Basin for ozone precursors, $PM_{2.5}$, and CO. The *de minimis* thresholds these three pollutants in the San Francisco Bay Area Air Basin are 100 tons per year for each pollutant.

Criteria Air Pollutant Compliance

Applicable non-attainment pollutants (or precursors) are shown in Table 2. As seen in the table, the emissions for reactive organic gas (ROG), nitrogen oxides (NO_x), particulate matter (PM_{10} & $PM_{2.5}$) are well below the *de minimis* thresholds for these pollutants in the San Francisco Bay Area Air Basin of 100 tons per year and the BAAQMD thresholds for each pollutant. Therefore, the

project is in compliance with the National Environmental Policy Act (NEPA) and the Housing and Urban Development (HUD) air quality criteria.

Table 2. Criteria Air Pollutant Significance Thresholds for Project Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Total construction emissions (tons)[1]	0.24 tons	0.51 tons	0.06 tons	0.04 tons
Total operational emissions (tons)[2]	0.18 tons	0.27 tons	0.14 tons	0.04 tons
BAAQMD Thresholds (pounds per day)	*10 tons/yr*	*10 tons/yr*	*15 tons/yr*	*10 tons/yr*
NEPA de minimis thresholds	*100 tons/yr*	*100 tons/yr*	*100 tons/yr*	*100 tons/yr*
Exceed Threshold?	**No**	**No**	**No**	**No**
Note: [1]Assumes 269 workdays, [2]Assumes 365-day operation				

Community Health Risk Impacts

Project Construction Activity

Renovation of the Heritage House building would produce small quantities of construction air pollutant emissions and would not affect the overall emissions emitted during construction of the project. Additionally, the project would install a stitch wall for bank stabilization at the Heritage House site and the vacant bridge at the northern end of the project site would be removed. Therefore, only construction emissions from Valle Verde were analysis in this assessment.

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 employed to reduce these emissions. *The first part of Mitigation Measure AQ-1 would implement BAAQMD-required best management practices.*

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust are known TAC sources. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $PM_{2.5}$.[5] The closest sensitive receptors to the project site are residents in townhomes across from the construction site, to the west on Valle Verde Drive, with additional residences in the nearby area surrounding the project site (see *Figure 1*). Dispersion modeling was conducted to

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

predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction activity is anticipated to include demolition, site preparation, grading, trenching, building construction, paving, and architectural coating. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2016.3.2 (CalEEMod). A build-out construction schedule for Valle Verde including equipment usage assumptions was developed based on applicant provided information. The proposed project land uses were input into CalEEMod, which included 24 dwelling units entered as "Apartments Mid Rise" and 44 spaces entered as "Parking Lot" on a 1.3-acre site. In addition, 3,000 square feet (sf) of building demolition,[6] 1,746 cubic yards (cy) of export and 746 cy of import of soil hauling for the grading phase, 240 one-way cement truck trips during building construction, and 40 on-way asphalt trips during paving were entered into the model. The CalEEMod modeling included emissions from truck and worker travel near the project site, assumed to occur over a distance of one mile on or near the site. The model output from CalEEMod is included as *Attachment 2*.

Construction Period Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.0242 tons (48 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 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 0.0106 tons (21 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences) that would be present in the vicinity of the project site during construction activities. Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions. The AERMOD modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7 a.m. and 4 p.m., when the majority of construction activity would occur.

[6] At the time of the analysis, the demolition of the existing on-site multi-family development was included within the analysis. However, said building has been demolished since this analysis was completed. By including the 3,000-sf of demolition, the number of hauling trips during demolition has been slightly overestimated. The air quality and risk impacts calculated are conservatively higher.

Figure 1 shows the project site, construction area used for modeling, and nearby sensitive receptor locations where health impacts were evaluated.

The modeling used a five-year data set (2009-2013) of hourly meteorological data from the Napa County Airport that was prepared for use with the AERMOD model by CARB for health risk assessments. The airport is about 8 miles south of the project site. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the project construction period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 1.5 meters (5 feet) and 4.5 meters (15 feet) were used to represent the breathing heights of residents in nearby homes, townhomes and apartment buildings on the first and second floor levels, respectively.

Predicted Cancer Risk and Hazards

Figure 1 shows the locations where the maximum-modeled DPM and $PM_{2.5}$ concentrations occurred. The maximum DPM and $PM_{2.5}$ concentrations occurred at a single-family home northeast of the project site on the first-floor level (1.5-meter receptor height). Using the maximum annual modeled DPM concentration, the maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated using BAAQMD recommended methods. The cancer risk calculations are based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations, as described in *Attachment 1*. Infant and adult exposures were assumed to occur at all residences through the entire construction period.

Results of this assessment indicate that the maximum increased residential cancer risks would be 12.6 in one million for an infant exposure and 0.2 in one million for an adult exposure. The maximum residential excess cancer risk would be above the BAAQMD significance threshold of 10.0 in one million. *Implementation of Mitigation Measure AQ-1 would reduce this impact to a level of less-than-significant.*

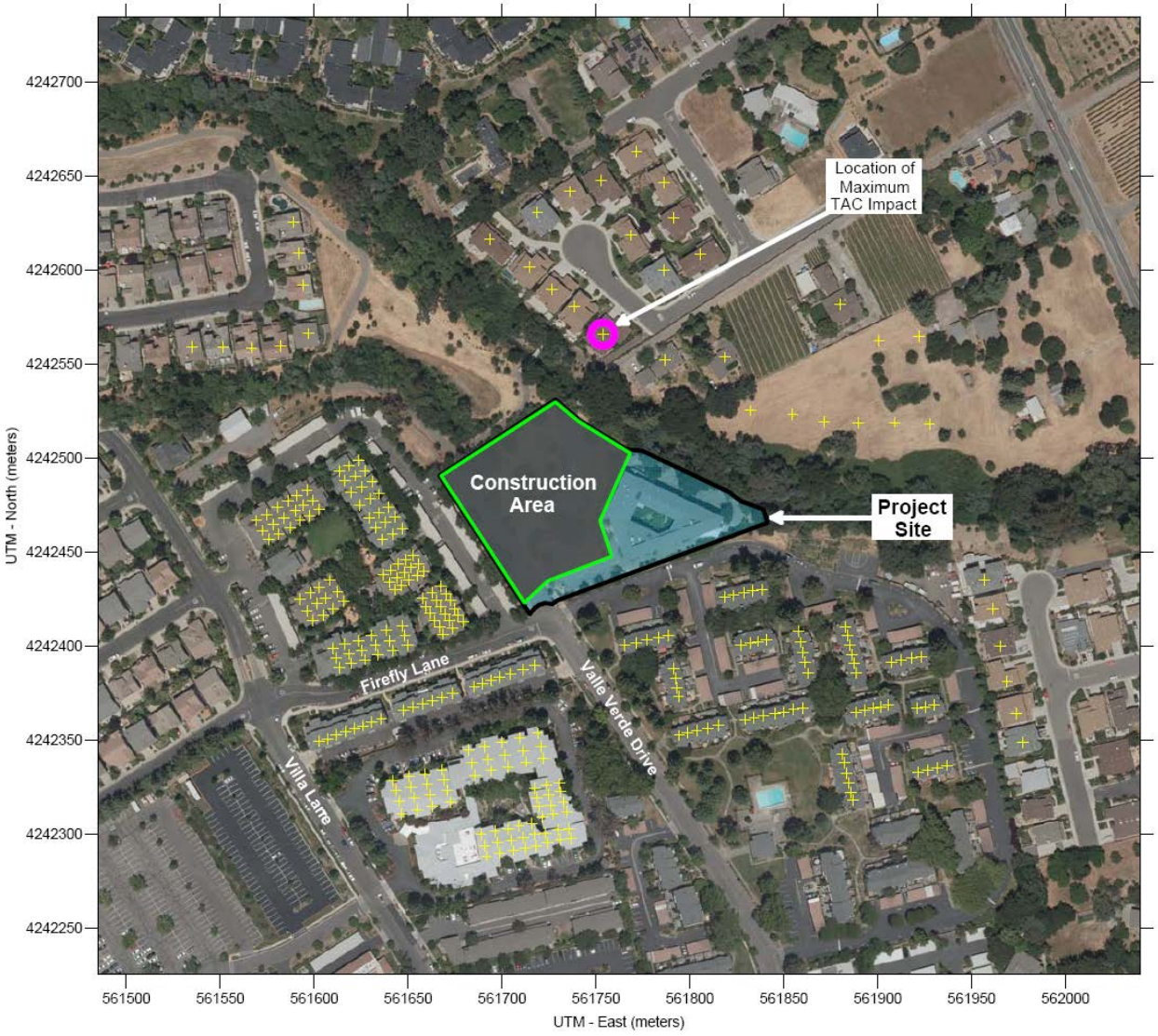
Predicted Annual $PM_{2.5}$ Concentration

The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions, was 0.12 $\mu g/m^3$. This maximum annual $PM_{2.5}$ concentration would be below the BAAQMD significance threshold of greater than 0.3 $\mu g/m^3$.

Non-Cancer Hazards

The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.0765 $\mu g/m^3$. The maximum computed HI based on this DPM concentration is 0.015, which is lower than the BAAQMD significance criterion of a HI greater than 1.0. The project would have a *significant* impact with respect to community risk caused by project construction activities, since maximum cancer risk is above the single-source thresholds of 10.0 per million for cancer risk. *Attachment 3* includes the emission calculations and source information used in the modeling and the cancer risk calculations.

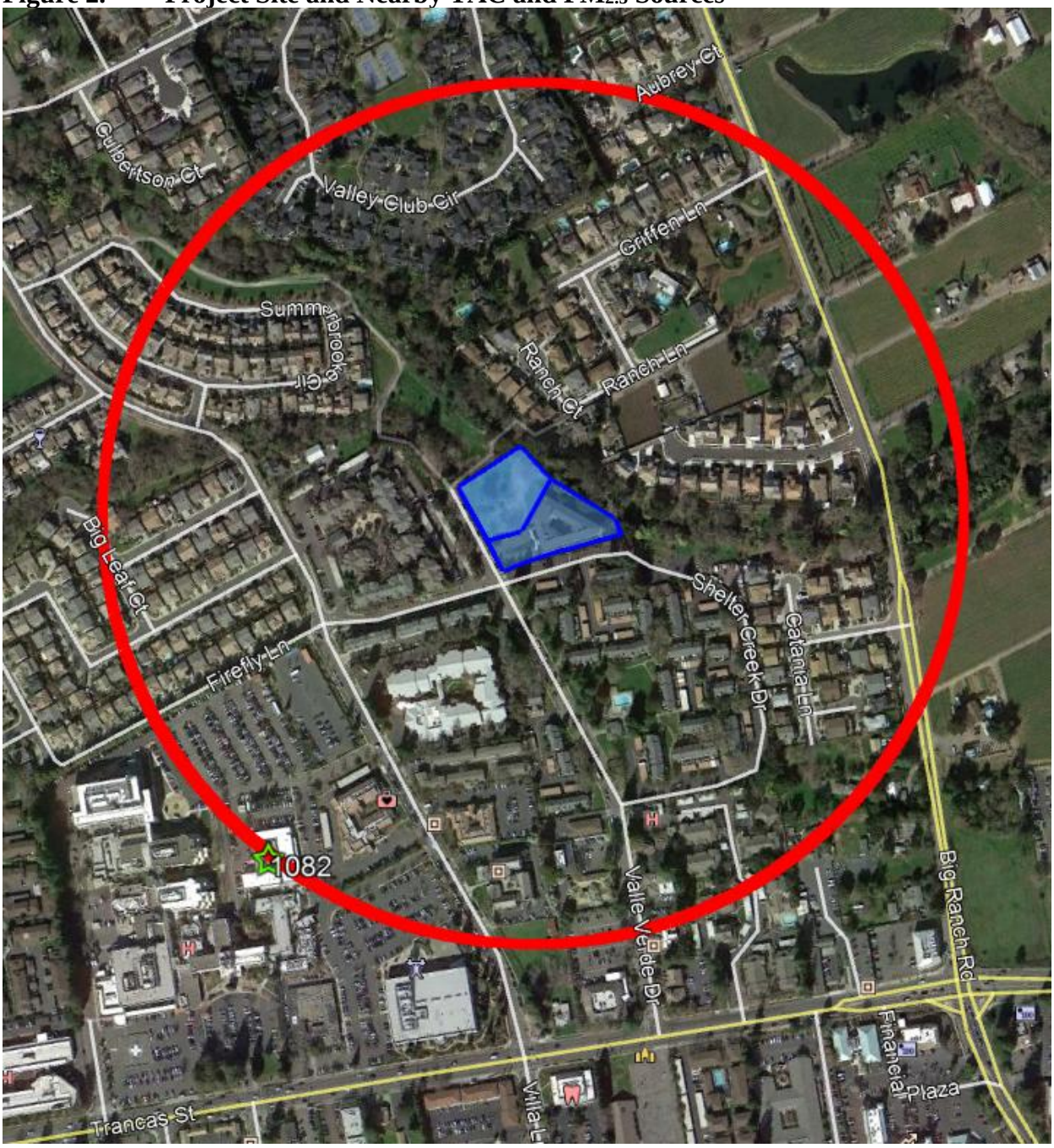
Figure 1. Project Construction Site and Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts



Community Risk Impacts on Construction MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site. These sources include freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. As shown in *Figure 2*, the only substantial source of TAC and $PM_{2.5}$ emissions in the area is Plant #1082. Details of the community risk screening calculations are included in *Attachment 4*.

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using *BAAQMD's Stationary Source Risk & Hazard Analysis Tool.* This mapping tool uses Google Earth and identified the location of three stationary sources and their estimated risk and hazard impacts. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. They provided updated risk levels, emissions and adjustments to account

for new OEHHA guidance.[7] The adjusted risk values were then adjusted with the appropriate distance multiplier values provided by BAAQMD or the emissions information was used in refined modeling.

Plant #1082, which has emergency diesel generators, was evaluated using emissions data provided by BAAQMD and adjusted for distance based on BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines*. Concentration levels and community risk impacts from this source upon the project is reported in *Table 3*.

Cumulative Impacts on Construction MEI

The cumulative impacts of TAC emissions from construction of the project and the stationary source on the construction MEI have been summarized in *Table 3*. The construction MEI would represent the worst-case scenario as its calculated unmitigated maximum cancer risk concentrations exceeded the BAAQMD single-source threshold. The screening levels reported for cumulative sources were computed in the same manner described above.

As shown in *Table 3*, the sum of impacts from combined sources at the construction MEI would not exceed the cumulative threshold for cancer risk of 100.0 cases per million. The cumulative impact would be *less-than-significant*.

Table 3. Impacts from Sources at Construction MEI

Source		Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	**12.6 (infant)**	0.12	0.02
	Mitigated	9.3 (infant)	0.07	0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Significant?		***Yes (Unmitigated)***	***No***	***No***
Plant # 1082 (Generators) at 950 feet		12.7	0.02	0.01
Combined Sources	*Unmitigated*	25.3	0.14	0.03
	Mitigated	22.0	0.09	0.02
BAAQMD Threshold – Combined Sources		***100***	***0.8***	***10.0***
Significant?		***No***	***No***	***No***

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

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

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

[7] Correspondence with Areana Flores, BAAQMD, August 24, 2018.

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 21 percent reduction in particulate matter exhaust emissions or more. 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 2 engines or equivalent. The use of equipment that includes CARB-certified Level 3 Diesel Particulate Filters[8] would also meet this requirement. Alternatively, the use of 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 70 percent and reduce on-site diesel exhaust emissions by over 50 percent. This would reduce the residential infant cancer risk proportionally, such that the mitigated risk at the residential

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

receptor would be less than 9.3 in one million and the maximum annual $PM_{2.5}$ concentration would be reduced to less than 0.07 $\mu g/m^3$, which is less than the BAAQMD significance thresholds. After implementation of these mitigation measures, the project would have a *less-than-significant* impact with respect to community risk caused by construction activities.

Greenhouse Gases Assessment

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 bikeable 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.

Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 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 that were codified by SB 32, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[9]

Greenhouse Gas Emissions

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.

[9] 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.

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*.

Land Uses

The project land uses included:

- 24 dwelling units and 25,785-sf entered as "Apartments Mid Rise" for Valle Verde,
- 66 dwelling units and 38,770-sf entered as "Congregate Care (Assisted Living)" for Heritage House. Note that throughout the rest of the report Congregate Care will instead be referred as Single-Room Occupancy (SRO) to keep the report in line with the project description, and
- 85 spaces entered as "Parking Lot"

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[10]. For each land use type, the forecasted daily trip rate with trip reductions applied was divided by the quantity of that land use to identify the weekday daily trip rate. 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 provided weekday rate for the "Apartments Mid Rise" was 5.44, which changed the Saturday weekend rate to 5.23 and the Sunday weekend rate to 5.23. The provided weekday rate for the SRO dwelling units was 2.02, which changed the Saturday weekend rate to 1.62 and the Sunday weekend rate to 1.80.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. 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

[10] Correspondence with Caroline Weston, David J. Powers. September 20, 2018

the emission rate for delivered electricity had been reduced to 405 pounds CO_2 per megawatt of electricity delivered.[11] 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.[12]

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. In the Area sources input, hearth use was changed to eliminate all wood fireplaces and stoves and the natural gas fireplaces was increased to include the number wood burning fireplaces.

Existing Uses

An existing-use CalEEMod model was not run because the site is currently vacant and not operational.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. The applicant provided that the number of future employees would be 9 and the number of future residents would be 132. The total future service population for the project would be 141 individuals.

Construction Emissions

GHG emissions associated with construction were computed to be 191 MT of CO_2e for the total construction period of Valle Verde. 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 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. As shown in Table 4, annual emissions resulting from operation of the proposed project are

[11] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[12] 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

predicted to be 398 MT of CO_2e for the year 2021 and 343 MT of CO_{2e} for the year 2030. The Service population emission for the year 2021 and 2030 are predicted to be 2.7 and 2.3 MT/CO_{2e}/year/service population, respectively. The 2030 predicted service population emissions would not exceed the "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population. Therefore, the project will have *less-than-significant* impacts.

Table 4. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project in 2021	Proposed Project in 2030
Area	5	5
Energy Consumption	92	92
Mobile	255	200
Solid Waste Generation	36	36
Water Usage	10	10
Total	398	343
Service Population Emissions	2.8	2.4
Significance Threshold		2.6 MT CO_{2e}/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 TAC emissions and operational GHG emissions. Also included are any modeling assumptions.

Attachment 3 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 4 includes the screening community risk calculations from sources affecting the construction MEI.

Attachment 1: Health Risk Calculation Methodology

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.[13] 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.[14] This HRA used the 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.[15] 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 and duration of exposure. 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 for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools

[13] 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.
[14] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[15] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

and daycare facilities, BAAQMD recommends using the 95th percentile breathing rates. 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). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD.

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) 80th Percentile Rate		273	758	631	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	861	745	335
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

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: Valle Verde

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size 24 Dwelling Units 1.296 total project acres disturbed

25,785 s.f. residential

Pile Driving? Y/N? No

0 s.f. retail

0 s.f. office/commercial

0 s.f. other, specify:

0 s.f. parking garage 0 spaces

18,686 s.f. parking lot 44 spaces

Construction Hours 8:00 am to 5:00 pm

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**6/1/2019**	**Total phase:**	**5**			**Overall Import/Export Volumes**
		End Date:	**6/8/2019**					
1	Concrete/Industrial Saws	81	0.73	8	0.5	0.800	4	**Demolition Volume**
1	Excavators	162	0.38	8	2	3.200	16	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	255	0.4	8	1	1.600	8	(*or* total tons to be hauled)
1	Tractors/Loaders/Backhoes	97	0.37	8	1.5	2.400	12	**3000** square feet *or*
								? Hauling volume (tons)
	Site Preperation	**Start Date:**	**6/9/2019**	**Total phase:**	**3**			Any pavement demolished and hauled? **no tons**
		End Date:	**6/12/2019**					
1	Graders	174	0.41	8	2	5.333	16	
1	Rubber Tired Dozers	255	0.4	8	3	8.000	24	
1	Tractors/Loaders/Backhoes	97	0.37	8	5	13.333	40	
	Grading / Excavation	**Start Date:**	**6/13/2019**	**Total phase:**	**7**			
		End Date:	**6/23/2019**					**Soil Hauling Volume**
1	Excavators	162	0.38	8	2	2.286	16	Export volume = 1,746 cubic yards
1	Graders	174	0.41	8	2	2.286	16	Import volume = 746 cubic yards?
1	Rubber Tired Dozers	255	0.4	8	3	3.429	24	
1	Tractors/Loaders/Backhoes	97	0.37	8	3	3.429	24	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**6/24/2019**	**Total phase:**	**5**			
		End Date:	**6/30/2019**					
1	Tractor/Loader/Backhoe	97	0.37	8	10	16.000	80	
1	Excavators	162	0.38	8	20	32.000		
	Other Equipment?							
	Building - Exterior	**Start Date:**	**7/4/2019**	**Total phase:**	**83**			**Cement Trucks? 120 Total Round-Trips**
		End Date:	**10/28/2019**					
0	Cranes	226	0.29		0	0.000	0	Electric? (Y/N) ___ Otherwise assumed diesel
1	Forklifts	89	0.2	8	120	11.566	960	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	60	5.783	480	Or temporary line power? (Y/N) __Yes_
1	Tractors/Loaders/Backhoes	97	0.37	8	10	0.964	80	
0	Welders	46	0.45	0	0	0.000	0	
	Other Equipment?					0.000		
Building - Interior/Architectural Coating		**Start Date:**	**10/29/2019**	**Total phase:**	**179**			
		End Date:	**7/4/2020**					
2	Air Compressors	78	0.48	8	20	0.894	320	
0	Aerial Lift	62	0.31	0	0	0.000	0	
	Other Equipment?							
	Paving	**Start Date:**	**7/5/2020**	**Total phase:**	**7**			
		Start Date:	**7/14/2020**					
1	Cement and Mortar Mixers	9	0.56	8	5	5.714	40	
1	Pavers	125	0.42	8	5	5.714	40	**Asphalt? ___ cubic yards or __20__ round trips?**
1	Paving Equipment	130	0.36	8	5	5.714	40	
1	Rollers	80	0.38	8	5	5.714	40	
1	Tractors/Loaders/Backhoes	97	0.37	8	2	2.286	16	
	Other Equipment?							

18-109 Heritage House (Valle Verde) AQ

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	24.00	Dwelling Unit	1.30	25,785.00	69
Parking Lot	44.00	Space	0.00	18,686.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	290	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Applicant Construction Data Sheet

Construction Phase - Applicant Construction Schedule

Off-road Equipment - Applicant provided equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Grading - Applicant soil hauling valume (import =746 cy, export = 1746 cy)

Demolition - Applicant provided: 3000 sqft

Trips and VMT - Cement: 240 one-way, asphalt: 40 one-way

Woodstoves - all gas fireplaces

Water And Wastewater - 100% aerobic

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	179.00
tblConstructionPhase	NumDays	200.00	83.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	4.00	7.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	2.00	3.00
tblConstructionPhase	PhaseEndDate	5/11/2020	7/4/2020
tblConstructionPhase	PhaseEndDate	4/13/2020	10/28/2019
tblConstructionPhase	PhaseEndDate	6/28/2019	6/8/2019
tblConstructionPhase	PhaseEndDate	7/8/2019	6/23/2019
tblConstructionPhase	PhaseEndDate	4/27/2020	7/14/2020
tblConstructionPhase	PhaseEndDate	7/2/2019	6/12/2019
tblConstructionPhase	PhaseStartDate	4/28/2020	10/29/2019
tblConstructionPhase	PhaseStartDate	7/9/2019	7/4/2019
tblConstructionPhase	PhaseStartDate	7/3/2019	6/13/2019
tblConstructionPhase	PhaseStartDate	4/14/2020	7/5/2020
tblConstructionPhase	PhaseStartDate	6/29/2019	6/9/2019
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	3.60	7.68
tblFireplaces	NumberWood	4.08	0.00
tblGrading	AcresOfGrading	0.99	0.00
tblGrading	MaterialExported	0.00	1,746.00
tblGrading	MaterialImported	0.00	746.00

tblLandUse	LandUseSquareFeet	24,000.00	25,785.00
tblLandUse	LandUseSquareFeet	17,600.00	18,686.00
tblLandUse	LotAcreage	0.63	1.30
tblLandUse	LotAcreage	0.40	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.89
tblOffRoadEquipment	UsageHours	6.00	5.71
tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	8.00	5.78
tblOffRoadEquipment	UsageHours	6.00	11.57
tblOffRoadEquipment	UsageHours	8.00	5.30
tblOffRoadEquipment	UsageHours	6.00	5.71
tblOffRoadEquipment	UsageHours	7.00	5.71
tblOffRoadEquipment	UsageHours	8.00	1.60
tblOffRoadEquipment	UsageHours	6.00	3.43
tblOffRoadEquipment	UsageHours	6.00	0.96
tblOffRoadEquipment	UsageHours	8.00	2.40
tblOffRoadEquipment	UsageHours	7.00	3.43
tblOffRoadEquipment	UsageHours	8.00	2.29

tblOffRoadEquipment	UsageHours	8.00	13.30
tblOffRoadEquipment	UsageHours	6.00	2.29
tblOffRoadEquipment	UsageHours	8.00	5.71
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	240.00
tblTripsAndVMT	HaulingTripNumber	0.00	40.00
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	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	0.0940	0.4533	0.3622	8.3000e-004	0.0355	0.0214	0.0570	0.0144	0.0204	0.0348	0.0000	75.7738	75.7738	0.0102	0.0000	76.0281
2020	0.1466	0.0612	0.0720	1.4000e-004	3.3000e-003	3.3500e-003	6.6500e-003	8.8000e-004	3.2600e-003	4.1500e-003	0.0000	12.2241	12.2241	1.5000e-003	0.0000	12.2615
Maximum	**0.1466**	**0.4533**	**0.3622**	**8.3000e-004**	**0.0355**	**0.0214**	**0.0570**	**0.0144**	**0.0204**	**0.0348**	**0.0000**	**75.7738**	**75.7738**	**0.0102**	**0.0000**	**76.0281**

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	0.0940	0.4533	0.3622	8.3000e-004	0.0355	0.0214	0.0570	0.0144	0.0204	0.0348	0.0000	75.7738	75.7738	0.0102	0.0000	76.0280
2020	0.1466	0.0612	0.0720	1.4000e-004	3.3000e-003	3.3500e-003	6.6500e-003	8.8000e-004	3.2600e-003	4.1500e-003	0.0000	12.2241	12.2241	1.5000e-003	0.0000	12.2615
Maximum	**0.1466**	**0.4533**	**0.3622**	**8.3000e-004**	**0.0355**	**0.0214**	**0.0570**	**0.0144**	**0.0204**	**0.0348**	**0.0000**	**75.7738**	**75.7738**	**0.0102**	**0.0000**	**76.0280**

	ROG	NOx	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	**6-1-2019**	**8-31-2019**	0.3356	0.3356
2	**9-1-2019**	**11-30-2019**	0.1913	0.1913
3	**12-1-2019**	**2-29-2020**	0.0881	0.0881
4	**3-1-2020**	**5-31-2020**	0.0883	0.0883
5	**6-1-2020**	**8-31-2020**	0.0622	0.0622
		Highest	0.3356	0.3356

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	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634
Energy	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	24.9583	24.9583	1.6000e-003	4.9000e-004	25.1445

Mobile	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165
Waste						0.0000	0.0000		0.0000	0.0000	2.2410	0.0000	2.2410	0.1324	0.0000	5.5520
Water						0.0000	0.0000		0.0000	0.0000	0.5532	1.5669	2.1201	2.0600e-003	1.2400e-003	2.5398
Total	**0.1794**	**0.2731**	**0.7640**	**1.7700e-003**	**0.1337**	**3.6000e-003**	**0.1373**	**0.0360**	**3.4900e-003**	**0.0395**	**2.7943**	**183.9173**	**186.7115**	**0.1434**	**1.7500e-003**	**190.8163**

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	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634
Energy	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	24.9583	24.9583	1.6000e-003	4.9000e-004	25.1445
Mobile	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165
Waste						0.0000	0.0000		0.0000	0.0000	2.2410	0.0000	2.2410	0.1324	0.0000	5.5520
Water						0.0000	0.0000		0.0000	0.0000	0.5532	1.5669	2.1201	2.0600e-003	1.2400e-003	2.5398
Total	**0.1794**	**0.2731**	**0.7640**	**1.7700e-003**	**0.1337**	**3.6000e-003**	**0.1373**	**0.0360**	**3.4900e-003**	**0.0395**	**2.7943**	**183.9173**	**186.7115**	**0.1434**	**1.7500e-003**	**190.8163**

	ROG	NOx	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	6/1/2019	6/8/2019	5	5	

2	Site Preparation	Site Preparation	6/9/2019	6/12/2019	5	3	
3	Grading	Grading	6/13/2019	6/23/2019	5	7	
4	Trenching/Foundation	Trenching	6/24/2019	6/30/2019	5	5	
5	Building Construction	Building Construction	7/4/2019	10/28/2019	5	83	
6	Architectural Coating	Architectural Coating	10/29/2019	7/4/2020	5	179	
7	Paving	Paving	7/5/2020	7/14/2020	5	7	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1

Acres of Paving: 0

Residential Indoor: 52,215; Residential Outdoor: 17,405; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	2	0.89	78	0.48
Paving	Cement and Mortar Mixers	1	5.71	9	0.56
Demolition	Concrete/Industrial Saws	1	0.80	81	0.73
Building Construction	Generator Sets	1	5.78	84	0.74
Building Construction	Cranes	0	6.00	231	0.29
Building Construction	Forklifts	1	11.57	89	0.20
Site Preparation	Graders	1	5.30	187	0.41
Paving	Pavers	1	5.71	130	0.42
Paving	Rollers	1	5.71	80	0.38
Demolition	Rubber Tired Dozers	1	1.60	247	0.40
Grading	Rubber Tired Dozers	1	3.43	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	0.96	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	2.40	97	0.37
Grading	Tractors/Loaders/Backhoes	1	3.43	97	0.37
Paving	Tractors/Loaders/Backhoes	1	2.29	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	13.30	97	0.37

Grading	Graders	1	2.29	187	0.41
Paving	Paving Equipment	1	5.71	132	0.36
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Welders	0	8.00	46	0.45
Demolition	Excavators	1	3.20	158	0.38
Grading	Excavators	1	2.29	158	0.38
Trenching/Foundation	Excavators	1	32.00	158	0.38
Trenching/Foundation	Tractors/Loaders/Backhoes	1	16.00	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
Demolition	4	10.00	0.00	14.00	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	246.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	25.00	6.00	240.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	40.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching/Foundation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4800e-003	0.0000	1.4800e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.1200e-003	0.0114	8.0700e-003	1.0000e-005		6.0000e-004	6.0000e-004		5.6000e-004	5.6000e-004	0.0000	1.1932	1.1932	3.4000e-004	0.0000	1.2018
Total	**1.1200e-003**	**0.0114**	**8.0700e-003**	**1.0000e-005**	**1.4800e-003**	**6.0000e-004**	**2.0800e-003**	**2.2000e-004**	**5.6000e-004**	**7.8000e-004**	**0.0000**	**1.1932**	**1.1932**	**3.4000e-004**	**0.0000**	**1.2018**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.2600e-003	4.6000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5447	0.5447	3.0000e-005	0.0000	0.5456
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	1.3000e-004	1.0000e-004	9.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1865	0.1865	1.0000e-005	0.0000	0.1867
Total	**2.0000e-004**	**2.3600e-003**	**1.4300e-003**	**1.0000e-005**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**0.7312**	**0.7312**	**4.0000e-005**	**0.0000**	**0.7323**

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					1.4800e-003	0.0000	1.4800e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1200e-003	0.0114	8.0700e-003	1.0000e-005		6.0000e-004	6.0000e-004		5.6000e-004	5.6000e-004	0.0000	1.1931	1.1931	3.4000e-004	0.0000	1.2018
Total	**1.1200e-003**	**0.0114**	**8.0700e-003**	**1.0000e-005**	**1.4800e-003**	**6.0000e-004**	**2.0800e-003**	**2.2000e-004**	**5.6000e-004**	**7.8000e-004**	**0.0000**	**1.1931**	**1.1931**	**3.4000e-004**	**0.0000**	**1.2018**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.2600e-003	4.6000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5447	0.5447	3.0000e-005	0.0000	0.5456
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	1.3000e-004	1.0000e-004	9.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1865	0.1865	1.0000e-005	0.0000	0.1867
Total	**2.0000e-004**	**2.3600e-003**	**1.4300e-003**	**1.0000e-005**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**0.7312**	**0.7312**	**4.0000e-005**	**0.0000**	**0.7323**

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					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7700e-003	0.0305	0.0140	3.0000e-005		1.4800e-003	1.4800e-003		1.3600e-003	1.3600e-003	0.0000	2.4391	2.4391	7.7000e-004	0.0000	2.4583
Total	**2.7700e-003**	**0.0305**	**0.0140**	**3.0000e-005**	**9.0300e-003**	**1.4800e-003**	**0.0105**	**4.9700e-003**	**1.3600e-003**	**6.3300e-003**	**0.0000**	**2.4391**	**2.4391**	**7.7000e-004**	**0.0000**	**2.4583**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0895	0.0895	0.0000	0.0000	0.0896
Total	**6.0000e-005**	**5.0000e-005**	**4.7000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0895**	**0.0895**	**0.0000**	**0.0000**	**0.0896**

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					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7700e-003	0.0305	0.0140	3.0000e-005		1.4800e-003	1.4800e-003		1.3600e-003	1.3600e-003	0.0000	2.4391	2.4391	7.7000e-004	0.0000	2.4583
Total	**2.7700e-003**	**0.0305**	**0.0140**	**3.0000e-005**	**9.0300e-003**	**1.4800e-003**	**0.0105**	**4.9700e-003**	**1.3600e-003**	**6.3300e-003**	**0.0000**	**2.4391**	**2.4391**	**7.7000e-004**	**0.0000**	**2.4583**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0895	0.0895	0.0000	0.0000	0.0896
Total	**6.0000e-005**	**5.0000e-005**	**4.7000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0895**	**0.0895**	**0.0000**	**0.0000**	**0.0896**

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					9.5600e-003	0.0000	9.5600e-003	5.0200e-003	0.0000	5.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-003	0.0309	0.0150	3.0000e-005		1.4600e-003	1.4600e-003		1.3400e-003	1.3400e-003	0.0000	2.6319	2.6319	8.3000e-004	0.0000	2.6527
Total	**2.8000e-003**	**0.0309**	**0.0150**	**3.0000e-005**	**9.5600e-003**	**1.4600e-003**	**0.0110**	**5.0200e-003**	**1.3400e-003**	**6.3600e-003**	**0.0000**	**2.6319**	**2.6319**	**8.3000e-004**	**0.0000**	**2.6527**

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	1.1500e-003	0.0398	8.1200e-003	1.0000e-004	2.0400e-003	2.0000e-004	2.2400e-003	5.6000e-004	1.9000e-004	7.5000e-004	0.0000	9.5717	9.5717	6.1000e-004	0.0000	9.5869
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	1.8000e-004	1.4000e-004	1.3600e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2611	0.2611	1.0000e-005	0.0000	0.2614
Total	**1.3300e-003**	**0.0399**	**9.4800e-003**	**1.0000e-004**	**2.3100e-003**	**2.0000e-004**	**2.5200e-003**	**6.3000e-004**	**1.9000e-004**	**8.3000e-004**	**0.0000**	**9.8328**	**9.8328**	**6.2000e-004**	**0.0000**	**9.8482**

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					9.5600e-003	0.0000	9.5600e-003	5.0200e-003	0.0000	5.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-003	0.0309	0.0150	3.0000e-005		1.4600e-003	1.4600e-003		1.3400e-003	1.3400e-003	0.0000	2.6319	2.6319	8.3000e-004	0.0000	2.6527
Total	**2.8000e-003**	**0.0309**	**0.0150**	**3.0000e-005**	**9.5600e-003**	**1.4600e-003**	**0.0110**	**5.0200e-003**	**1.3400e-003**	**6.3600e-003**	**0.0000**	**2.6319**	**2.6319**	**8.3000e-004**	**0.0000**	**2.6527**

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	1.1500e-003	0.0398	8.1200e-003	1.0000e-004	2.0400e-003	2.0000e-004	2.2400e-003	5.6000e-004	1.9000e-004	7.5000e-004	0.0000	9.5717	9.5717	6.1000e-004	0.0000	9.5869
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	1.8000e-004	1.4000e-004	1.3600e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2611	0.2611	1.0000e-005	0.0000	0.2614
Total	**1.3300e-003**	**0.0399**	**9.4800e-003**	**1.0000e-004**	**2.3100e-003**	**2.0000e-004**	**2.5200e-003**	**6.3000e-004**	**1.9000e-004**	**8.3000e-004**	**0.0000**	**9.8328**	**9.8328**	**6.2000e-004**	**0.0000**	**9.8482**

3.5 Trenching/Foundation - 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	3.7800e-003	0.0386	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	6.0494	6.0494	1.9100e-003	0.0000	6.0972

Total	**3.7800e-003**	**0.0386**	**0.0443**	**7.0000e-005**		**2.0800e-003**	**2.0800e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**6.0494**	**6.0494**	**1.9100e-003**	**0.0000**	**6.0972**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0933	0.0933	0.0000	0.0000	0.0933
Total	**6.0000e-005**	**5.0000e-005**	**4.9000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0933**	**0.0933**	**0.0000**	**0.0000**	**0.0933**

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	3.7800e-003	0.0386	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	6.0494	6.0494	1.9100e-003	0.0000	6.0972
Total	**3.7800e-003**	**0.0386**	**0.0443**	**7.0000e-005**		**2.0800e-003**	**2.0800e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**6.0494**	**6.0494**	**1.9100e-003**	**0.0000**	**6.0972**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0933	0.0933	0.0000	0.0000	0.0933
Total	**6.0000e-005**	**5.0000e-005**	**4.9000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0933**	**0.0933**	**0.0000**	**0.0000**	**0.0933**

3.6 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	0.0241	0.2107	0.1949	3.0000e-004		0.0142	0.0142		0.0136	0.0136	0.0000	26.5874	26.5874	4.1200e-003	0.0000	26.6904
Total	**0.0241**	**0.2107**	**0.1949**	**3.0000e-004**		**0.0142**	**0.0142**		**0.0136**	**0.0136**	**0.0000**	**26.5874**	**26.5874**	**4.1200e-003**	**0.0000**	**26.6904**

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	1.1200e-003	0.0388	7.9200e-003	1.0000e-004	1.9900e-003	1.9000e-004	2.1800e-003	5.5000e-004	1.8000e-004	7.3000e-004	0.0000	9.3382	9.3382	5.9000e-004	0.0000	9.3531
Vendor	1.2500e-003	0.0330	8.7400e-003	7.0000e-005	1.6100e-003	2.6000e-004	1.8700e-003	4.7000e-004	2.5000e-004	7.1000e-004	0.0000	6.4406	6.4406	4.3000e-004	0.0000	6.4513
Worker	5.3900e-003	4.0600e-003	0.0404	9.0000e-005	8.1400e-003	7.0000e-005	8.2100e-003	2.1700e-003	6.0000e-005	2.2300e-003	0.0000	7.7396	7.7396	3.1000e-004	0.0000	7.7474
Total	**7.7600e-003**	**0.0758**	**0.0570**	**2.6000e-004**	**0.0117**	**5.2000e-004**	**0.0123**	**3.1900e-003**	**4.9000e-004**	**3.6700e-003**	**0.0000**	**23.5184**	**23.5184**	**1.3300e-003**	**0.0000**	**23.5518**

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	0.0241	0.2107	0.1949	3.0000e-004		0.0142	0.0142		0.0136	0.0136	0.0000	26.5873	26.5873	4.1200e-003	0.0000	26.6904
Total	**0.0241**	**0.2107**	**0.1949**	**3.0000e-004**		**0.0142**	**0.0142**		**0.0136**	**0.0136**	**0.0000**	**26.5873**	**26.5873**	**4.1200e-003**	**0.0000**	**26.6904**

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	1.1200e-003	0.0388	7.9200e-003	1.0000e-004	1.9900e-003	1.9000e-004	2.1800e-003	5.5000e-004	1.8000e-004	7.3000e-004	0.0000	9.3382	9.3382	5.9000e-004	0.0000	9.3531
Vendor	1.2500e-003	0.0330	8.7400e-003	7.0000e-005	1.6100e-003	2.6000e-004	1.8700e-003	4.7000e-004	2.5000e-004	7.1000e-004	0.0000	6.4406	6.4406	4.3000e-004	0.0000	6.4513
Worker	5.3900e-003	4.0600e-003	0.0404	9.0000e-005	8.1400e-003	7.0000e-005	8.2100e-003	2.1700e-003	6.0000e-005	2.2300e-003	0.0000	7.7396	7.7396	3.1000e-004	0.0000	7.7474
Total	**7.7600e-003**	**0.0758**	**0.0570**	**2.6000e-004**	**0.0117**	**5.2000e-004**	**0.0123**	**3.1900e-003**	**4.9000e-004**	**3.6700e-003**	**0.0000**	**23.5184**	**23.5184**	**1.3300e-003**	**0.0000**	**23.5518**

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	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8300e-003	0.0126	0.0126	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	1.7500	1.7500	1.5000e-004	0.0000	1.7537
Total	**0.0495**	**0.0126**	**0.0126**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**	**0.0000**	**1.7500**	**1.7500**	**1.5000e-004**	**0.0000**	**1.7537**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.5000e-004	4.4700e-003	1.0000e-005	9.0000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8579	0.8579	3.0000e-005	0.0000	0.8588
Total	**6.0000e-004**	**4.5000e-004**	**4.4700e-003**	**1.0000e-005**	**9.0000e-004**	**1.0000e-005**	**9.1000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8579**	**0.8579**	**3.0000e-005**	**0.0000**	**0.8588**

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	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8300e-003	0.0126	0.0126	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	1.7500	1.7500	1.5000e-004	0.0000	1.7537
Total	**0.0495**	**0.0126**	**0.0126**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**	**0.0000**	**1.7500**	**1.7500**	**1.5000e-004**	**0.0000**	**1.7537**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.5000e-004	4.4700e-003	1.0000e-005	9.0000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8579	0.8579	3.0000e-005	0.0000	0.8588
Total	**6.0000e-004**	**4.5000e-004**	**4.4700e-003**	**1.0000e-005**	**9.0000e-004**	**1.0000e-005**	**9.1000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8579**	**0.8579**	**3.0000e-005**	**0.0000**	**0.8588**

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	0.1378					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	4.8000e-003	0.0334	0.0363	6.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	5.0598	5.0598	3.9000e-004	0.0000	5.0696
Total	**0.1426**	**0.0334**	**0.0363**	**6.0000e-005**		**2.2000e-003**	**2.2000e-003**		**2.2000e-003**	**2.2000e-003**	**0.0000**	**5.0598**	**5.0598**	**3.9000e-004**	**0.0000**	**5.0696**

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	1.5900e-003	1.1500e-003	0.0116	3.0000e-005	2.6100e-003	2.0000e-005	2.6300e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.4039	2.4039	9.0000e-005	0.0000	2.4061
Total	**1.5900e-003**	**1.1500e-003**	**0.0116**	**3.0000e-005**	**2.6100e-003**	**2.0000e-005**	**2.6300e-003**	**6.9000e-004**	**2.0000e-005**	**7.1000e-004**	**0.0000**	**2.4039**	**2.4039**	**9.0000e-005**	**0.0000**	**2.4061**

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	0.1378					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-003	0.0334	0.0363	6.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	5.0598	5.0598	3.9000e-004	0.0000	5.0696
Total	**0.1426**	**0.0334**	**0.0363**	**6.0000e-005**		**2.2000e-003**	**2.2000e-003**		**2.2000e-003**	**2.2000e-003**	**0.0000**	**5.0598**	**5.0598**	**3.9000e-004**	**0.0000**	**5.0696**

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	1.5900e-003	1.1500e-003	0.0116	3.0000e-005	2.6100e-003	2.0000e-005	2.6300e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.4039	2.4039	9.0000e-005	0.0000	2.4061
Total	**1.5900e-003**	**1.1500e-003**	**0.0116**	**3.0000e-005**	**2.6100e-003**	**2.0000e-005**	**2.6300e-003**	**6.9000e-004**	**2.0000e-005**	**7.1000e-004**	**0.0000**	**2.4039**	**2.4039**	**9.0000e-005**	**0.0000**	**2.4061**

3.8 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0206	0.0214	3.0000e-005		1.1100e-003	1.1100e-003		1.0200e-003	1.0200e-003	0.0000	2.8909	2.8909	9.1000e-004	0.0000	2.9136
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0500e-003**	**0.0206**	**0.0214**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0200e-003**	**1.0200e-003**	**0.0000**	**2.8909**	**2.8909**	**9.1000e-004**	**0.0000**	**2.9136**

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	1.6000e-004	5.9100e-003	1.2000e-003	2.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.5407	1.5407	9.0000e-005	0.0000	1.5431
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.5800e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3290	0.3290	1.0000e-005	0.0000	0.3293
Total	**3.8000e-004**	**6.0700e-003**	**2.7800e-003**	**2.0000e-005**	**6.9000e-004**	**2.0000e-005**	**7.1000e-004**	**1.9000e-004**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**1.8696**	**1.8696**	**1.0000e-004**	**0.0000**	**1.8723**

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	2.0500e-003	0.0206	0.0214	3.0000e-005		1.1100e-003	1.1100e-003		1.0200e-003	1.0200e-003	0.0000	2.8909	2.8909	9.1000e-004	0.0000	2.9136
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0500e-003**	**0.0206**	**0.0214**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0200e-003**	**1.0200e-003**	**0.0000**	**2.8909**	**2.8909**	**9.1000e-004**	**0.0000**	**2.9136**

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	1.6000e-004	5.9100e-003	1.2000e-003	2.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.5407	1.5407	9.0000e-005	0.0000	1.5431
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.5800e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3290	0.3290	1.0000e-005	0.0000	0.3293
Total	**3.8000e-004**	**6.0700e-003**	**2.7800e-003**	**2.0000e-005**	**6.9000e-004**	**2.0000e-005**	**7.1000e-004**	**1.9000e-004**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**1.8696**	**1.8696**	**1.0000e-004**	**0.0000**	**1.8723**

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	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165
Unmitigated	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	159.60	153.36	140.64	360,299	360,299
Parking Lot	0.00	0.00	0.00		
Total	159.60	153.36	140.64	360,299	360,299

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
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
Apartments Mid Rise	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

Parking Lot	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

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	13.8935	13.8935	1.3900e-003	2.9000e-004	14.0139
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	13.8935	13.8935	1.3900e-003	2.9000e-004	14.0139
NaturalGas Mitigated	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
NaturalGas Unmitigated	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
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		**1.1200e-003**	**9.5500e-003**	**4.0700e-003**	**6.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**11.0648**	**11.0648**	**2.1000e-004**	**2.0000e-004**	**11.1306**

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
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		**1.1200e-003**	**9.5500e-003**	**4.0700e-003**	**6.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**11.0648**	**11.0648**	**2.1000e-004**	**2.0000e-004**	**11.1306**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**13.8935**	**1.3900e-003**	**2.9000e-004**	**14.0139**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**13.8935**	**1.3900e-003**	**2.9000e-004**	**14.0139**

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	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634
Unmitigated	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634

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	0.0185					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.3000e-004	3.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9588	0.9588	2.0000e-005	2.0000e-005	0.9645
Landscaping	5.4500e-003	2.0700e-003	0.1790	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2919	0.2919	2.8000e-004	0.0000	0.2990
Total	**0.1260**	**2.9000e-003**	**0.1794**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**	**0.0000**	**1.2507**	**1.2507**	**3.0000e-004**	**2.0000e-005**	**1.2634**

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	0.0185					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.3000e-004	3.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9588	0.9588	2.0000e-005	2.0000e-005	0.9645
Landscaping	5.4500e-003	2.0700e-003	0.1790	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2919	0.2919	2.8000e-004	0.0000	0.2990
Total	**0.1260**	**2.9000e-003**	**0.1794**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**	**0.0000**	**1.2507**	**1.2507**	**3.0000e-004**	**2.0000e-005**	**1.2634**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	2.1201	2.0600e-003	1.2400e-003	2.5398
Unmitigated	2.1201	2.0600e-003	1.2400e-003	2.5398

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.1201**	**2.0600e-003**	**1.2400e-003**	**2.5398**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.1201**	**2.0600e-003**	**1.2400e-003**	**2.5398**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.2410	0.1324	0.0000	5.5520
Unmitigated	2.2410	0.1324	0.0000	5.5520

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.2410**	**0.1324**	**0.0000**	**5.5520**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.2410**	**0.1324**	**0.0000**	**5.5520**

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

18-109 Heritage House (Valle Verde) TAC Tier 3, DPF 3

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	44.00	Space	0.00	18,686.00	0
Apartments Mid Rise	24.00	Dwelling Unit	1.30	25,785.00	69

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
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 - Applicant Construction Data Sheet

Construction Phase - Applicant Construction Schedule

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant provided equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Off-road Equipment - Applicant equipment usage

Trips and VMT - Cement: 240 one-way, asphalt: 40 one-way, TAC 1 mile trip length

Demolition - Applicant provided: 3000 sqft

Grading - Applicant soil hauling valume (import =746 cy, export = 1746 cy)

Woodstoves - all gas fireplaces

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, tier 2

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	179.00
tblConstructionPhase	NumDays	200.00	83.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	4.00	7.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	2.00	3.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	3.60	7.68
tblFireplaces	NumberWood	4.08	0.00
tblGrading	AcresOfGrading	1.01	1.00
tblGrading	AcresOfGrading	0.99	0.00
tblGrading	MaterialExported	0.00	1,746.00
tblGrading	MaterialImported	0.00	746.00
tblLandUse	LandUseSquareFeet	17,600.00	18,686.00
tblLandUse	LandUseSquareFeet	24,000.00	25,785.00
tblLandUse	LotAcreage	0.40	0.00
tblLandUse	LotAcreage	0.63	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.90
tblOffRoadEquipment	UsageHours	6.00	5.70
tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	6.00	11.60

tblOffRoadEquipment	UsageHours	8.00	5.80
tblOffRoadEquipment	UsageHours	6.00	2.30
tblOffRoadEquipment	UsageHours	8.00	5.30
tblOffRoadEquipment	UsageHours	6.00	5.70
tblOffRoadEquipment	UsageHours	8.00	5.70
tblOffRoadEquipment	UsageHours	7.00	5.70
tblOffRoadEquipment	UsageHours	8.00	1.60
tblOffRoadEquipment	UsageHours	6.00	3.40
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	2.40
tblOffRoadEquipment	UsageHours	7.00	3.40
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	13.30
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	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	240.00
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	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
tblTripsAndVMT	WorkerTripLength	10.80	1.00
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	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	0.0875	0.3816	0.3130	5.2000e-004	0.0214	0.0209	0.0422	0.0105	0.0198	0.0304	0.0000	46.4588	46.4588	9.0000e-003	0.0000	46.6839
2020	0.1453	0.0565	0.0619	1.0000e-004	3.0000e-004	3.3300e-003	3.6200e-003	8.0000e-005	3.2400e-003	3.3200e-003	0.0000	8.5325	8.5325	1.3600e-003	0.0000	8.5665
Maximum	**0.1453**	**0.3816**	**0.3130**	**5.2000e-004**	**0.0214**	**0.0209**	**0.0422**	**0.0105**	**0.0198**	**0.0304**	**0.0000**	**46.4588**	**46.4588**	**9.0000e-003**	**0.0000**	**46.6839**

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	0.0694	0.4442	0.3337	5.2000e-004	0.0104	0.0150	0.0254	2.6600e-003	0.0150	0.0177	0.0000	46.4588	46.4588	9.0000e-003	0.0000	46.6839
2020	0.1420	0.0774	0.0645	1.0000e-004	3.0000e-004	2.8600e-003	3.1500e-003	8.0000e-005	2.8600e-003	2.9400e-003	0.0000	8.5325	8.5325	1.3600e-003	0.0000	8.5665
Maximum	**0.1420**	**0.4442**	**0.3337**	**5.2000e-004**	**0.0104**	**0.0150**	**0.0254**	**2.6600e-003**	**0.0150**	**0.0177**	**0.0000**	**46.4588**	**46.4588**	**9.0000e-003**	**0.0000**	**46.6839**

	ROG	NOx	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	**9.17**	**-19.07**	**-6.22**	**0.00**	**50.81**	**26.23**	**37.83**	**74.20**	**22.58**	**38.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2019**	**8-31-2019**	0.2798	0.3022
2	**9-1-2019**	**11-30-2019**	0.1672	0.1878
3	**12-1-2019**	**2-29-2020**	0.0871	0.0918
4	**3-1-2020**	**5-31-2020**	0.0875	0.0928
5	**6-1-2020**	**8-31-2020**	0.0577	0.0666
		Highest	0.2798	0.3022

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	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634

Energy	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	24.9583	24.9583	1.6000e-003	4.9000e-004	25.1445
Mobile	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165
Waste						0.0000	0.0000		0.0000	0.0000	2.2410	0.0000	2.2410	0.1324	0.0000	5.5520
Water						0.0000	0.0000		0.0000	0.0000	0.5532	1.5669	2.1201	2.0600e-003	1.2400e-003	2.5398
Total	**0.1794**	**0.2731**	**0.7640**	**1.7700e-003**	**0.1337**	**3.6000e-003**	**0.1373**	**0.0360**	**3.4900e-003**	**0.0395**	**2.7943**	**183.9173**	**186.7115**	**0.1434**	**1.7500e-003**	**190.8163**

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	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634
Energy	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	24.9583	24.9583	1.6000e-003	4.9000e-004	25.1445
Mobile	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165
Waste						0.0000	0.0000		0.0000	0.0000	2.2410	0.0000	2.2410	0.1324	0.0000	5.5520
Water						0.0000	0.0000		0.0000	0.0000	0.5532	1.5669	2.1201	2.0600e-003	1.2400e-003	2.5398
Total	**0.1794**	**0.2731**	**0.7640**	**1.7700e-003**	**0.1337**	**3.6000e-003**	**0.1373**	**0.0360**	**3.4900e-003**	**0.0395**	**2.7943**	**183.9173**	**186.7115**	**0.1434**	**1.7500e-003**	**190.8163**

	ROG	NOx	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	6/1/2019	6/8/2019	5	5	
2	Site Preparation	Site Preparation	6/9/2019	6/12/2019	5	3	
3	Grading	Grading	6/13/2019	6/23/2019	5	7	
4	Trenching/Foundation	Trenching	6/24/2019	6/30/2019	5	5	
5	Building Construction	Building Construction	7/4/2019	10/28/2019	5	83	
6	Architectural Coating	Architectural Coating	10/29/2019	7/4/2020	5	179	
7	Paving	Paving	7/5/2020	7/14/2020	5	7	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1

Acres of Paving: 0

Residential Indoor: 52,215; Residential Outdoor: 17,405; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	0.80	81	0.73
Demolition	Excavators	1	3.20	158	0.38
Demolition	Rubber Tired Dozers	1	1.60	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	2.40	97	0.37
Site Preparation	Graders	1	5.30	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	13.30	97	0.37
Grading	Excavators	1	2.30	158	0.38
Grading	Graders	1	2.30	187	0.41
Grading	Rubber Tired Dozers	1	3.40	247	0.40
Grading	Tractors/Loaders/Backhoes	1	3.40	97	0.37
Trenching/Foundation	Excavators	1	32.00	158	0.38
Trenching/Foundation	Tractors/Loaders/Backhoes	1	16.00	97	0.37
Building Construction	Cranes	0	6.00	231	0.29

Building Construction	Forklifts	1	11.60	89	0.20
Building Construction	Generator Sets	1	5.80	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	2	0.90	78	0.48
Paving	Cement and Mortar Mixers	1	5.70	9	0.56
Paving	Pavers	1	5.70	130	0.42
Paving	Paving Equipment	1	5.70	132	0.36
Paving	Rollers	1	5.70	80	0.38
Paving	Tractors/Loaders/Backhoes	1	2.30	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
Demolition	4	10.00	0.00	14.00	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	246.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching/Foundation	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	25.00	6.00	240.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	40.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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					1.4800e-003	0.0000	1.4800e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1200e-003	0.0114	8.0600e-003	1.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	1.1908	1.1908	3.4000e-004	0.0000	1.1994
Total	**1.1200e-003**	**0.0114**	**8.0600e-003**	**1.0000e-005**	**1.4800e-003**	**6.0000e-004**	**2.0800e-003**	**2.2000e-004**	**5.5000e-004**	**7.7000e-004**	**0.0000**	**1.1908**	**1.1908**	**3.4000e-004**	**0.0000**	**1.1994**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.4000e-004	1.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0788	0.0788	1.0000e-005	0.0000	0.0791
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	2.7000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0221	0.0221	0.0000	0.0000	0.0222
Total	**6.0000e-005**	**7.6000e-004**	**4.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.1009**	**0.1009**	**1.0000e-005**	**0.0000**	**0.1013**

Mitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Fugitive Dust					6.6000e-004	0.0000	6.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	0.0115	8.9000e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.1908	1.1908	3.4000e-004	0.0000	1.1994
Total	**4.7000e-004**	**0.0115**	**8.9000e-003**	**1.0000e-005**	**6.6000e-004**	**3.5000e-004**	**1.0100e-003**	**5.0000e-005**	**3.5000e-004**	**4.0000e-004**	**0.0000**	**1.1908**	**1.1908**	**3.4000e-004**	**0.0000**	**1.1994**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.4000e-004	1.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0788	0.0788	1.0000e-005	0.0000	0.0791
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	2.7000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0221	0.0221	0.0000	0.0000	0.0222
Total	**6.0000e-005**	**7.6000e-004**	**4.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.1009**	**0.1009**	**1.0000e-005**	**0.0000**	**0.1013**

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					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7700e-003	0.0305	0.0140	3.0000e-005		1.4800e-003	1.4800e-003		1.3600e-003	1.3600e-003	0.0000	2.4391	2.4391	7.7000e-004	0.0000	2.4583

Total	**2.7700e-003**	**0.0305**	**0.0140**	**3.0000e-005**	**9.0300e-003**	**1.4800e-003**	**0.0105**	**4.9700e-003**	**1.3600e-003**	**6.3300e-003**	**0.0000**	**2.4391**	**2.4391**	**7.7000e-004**	**0.0000**	**2.4583**

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	1.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0106	0.0106	0.0000	0.0000	0.0106
Total	**2.0000e-005**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0106**	**0.0106**	**0.0000**	**0.0000**	**0.0106**

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					4.0600e-003	0.0000	4.0600e-003	1.1200e-003	0.0000	1.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.4000e-004	0.0239	0.0161	3.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	2.4391	2.4391	7.7000e-004	0.0000	2.4583
Total	**8.4000e-004**	**0.0239**	**0.0161**	**3.0000e-005**	**4.0600e-003**	**6.5000e-004**	**4.7100e-003**	**1.1200e-003**	**6.5000e-004**	**1.7700e-003**	**0.0000**	**2.4391**	**2.4391**	**7.7000e-004**	**0.0000**	**2.4583**

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	1.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0106	0.0106	0.0000	0.0000	0.0106
Total	**2.0000e-005**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0106**	**0.0106**	**0.0000**	**0.0000**	**0.0106**

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					9.4900e-003	0.0000	9.4900e-003	4.9800e-003	0.0000	4.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7900e-003	0.0308	0.0149	3.0000e-005		1.4500e-003	1.4500e-003		1.3300e-003	1.3300e-003	0.0000	2.6228	2.6228	8.3000e-004	0.0000	2.6435
Total	**2.7900e-003**	**0.0308**	**0.0149**	**3.0000e-005**	**9.4900e-003**	**1.4500e-003**	**0.0109**	**4.9800e-003**	**1.3300e-003**	**6.3100e-003**	**0.0000**	**2.6228**	**2.6228**	**8.3000e-004**	**0.0000**	**2.6435**

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-004	0.0130	2.3200e-003	1.0000e-005	1.0000e-004	3.0000e-005	1.3000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	1.3842	1.3842	2.4000e-004	0.0000	1.3903
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0310	0.0310	0.0000	0.0000	0.0310
Total	**3.6000e-004**	**0.0131**	**2.7000e-003**	**1.0000e-005**	**1.3000e-004**	**3.0000e-005**	**1.6000e-004**	**4.0000e-005**	**2.0000e-005**	**6.0000e-005**	**0.0000**	**1.4152**	**1.4152**	**2.4000e-004**	**0.0000**	**1.4214**

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					4.2700e-003	0.0000	4.2700e-003	1.1200e-003	0.0000	1.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9000e-004	0.0253	0.0177	3.0000e-005		6.7000e-004	6.7000e-004		6.7000e-004	6.7000e-004	0.0000	2.6228	2.6228	8.3000e-004	0.0000	2.6435
Total	**8.9000e-004**	**0.0253**	**0.0177**	**3.0000e-005**	**4.2700e-003**	**6.7000e-004**	**4.9400e-003**	**1.1200e-003**	**6.7000e-004**	**1.7900e-003**	**0.0000**	**2.6228**	**2.6228**	**8.3000e-004**	**0.0000**	**2.6435**

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-004	0.0130	2.3200e-003	1.0000e-005	1.0000e-004	3.0000e-005	1.3000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	1.3842	1.3842	2.4000e-004	0.0000	1.3903
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0310	0.0310	0.0000	0.0000	0.0310
Total	**3.6000e-004**	**0.0131**	**2.7000e-003**	**1.0000e-005**	**1.3000e-004**	**3.0000e-005**	**1.6000e-004**	**4.0000e-005**	**2.0000e-005**	**6.0000e-005**	**0.0000**	**1.4152**	**1.4152**	**2.4000e-004**	**0.0000**	**1.4214**

3.5 Trenching/Foundation - 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	3.7700e-003	0.0385	0.0442	7.0000e-005		2.0700e-003	2.0700e-003		1.9100e-003	1.9100e-003	0.0000	6.0318	6.0318	1.9100e-003	0.0000	6.0796
Total	**3.7700e-003**	**0.0385**	**0.0442**	**7.0000e-005**		**2.0700e-003**	**2.0700e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**6.0318**	**6.0318**	**1.9100e-003**	**0.0000**	**6.0796**

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	1.4000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0111	0.0111	0.0000	0.0000	0.0111
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0111**	**0.0111**	**0.0000**	**0.0000**	**0.0111**

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	2.7400e-003	0.0592	0.0509	7.0000e-005		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	6.0318	6.0318	1.9100e-003	0.0000	6.0795
Total	**2.7400e-003**	**0.0592**	**0.0509**	**7.0000e-005**		**1.9600e-003**	**1.9600e-003**		**1.9600e-003**	**1.9600e-003**	**0.0000**	**6.0318**	**6.0318**	**1.9100e-003**	**0.0000**	**6.0795**

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	1.4000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0111	0.0111	0.0000	0.0000	0.0111
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0111**	**0.0111**	**0.0000**	**0.0000**	**0.0111**

3.6 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	0.0242	0.2117	0.1958	3.1000e-004		0.0143	0.0143		0.0137	0.0137	0.0000	26.7135	26.7135	4.1500e-003	0.0000	26.8173

Total	**0.0242**	**0.2117**	**0.1958**	**3.1000e-004**		**0.0143**	**0.0143**		**0.0137**	**0.0137**	**0.0000**	**26.7135**	**26.7135**	**4.1500e-003**	**0.0000**	**26.8173**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.9000e-004	0.0127	2.2600e-003	1.0000e-005	1.0000e-004	2.0000e-005	1.3000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	1.3505	1.3505	2.4000e-004	0.0000	1.3564
Vendor	5.5000e-004	0.0185	5.1700e-003	2.0000e-005	2.3000e-004	5.0000e-005	2.8000e-004	7.0000e-005	5.0000e-005	1.2000e-004	0.0000	1.7904	1.7904	2.8000e-004	0.0000	1.7975
Worker	1.8300e-003	8.8000e-004	0.0113	1.0000e-005	7.6000e-004	1.0000e-005	7.8000e-004	2.0000e-004	1.0000e-005	2.2000e-004	0.0000	0.9186	0.9186	7.0000e-005	0.0000	0.9202
Total	**2.6700e-003**	**0.0321**	**0.0187**	**4.0000e-005**	**1.0900e-003**	**8.0000e-005**	**1.1900e-003**	**3.0000e-004**	**8.0000e-005**	**3.9000e-004**	**0.0000**	**4.0594**	**4.0594**	**5.9000e-004**	**0.0000**	**4.0740**

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	0.0127	0.2620	0.2041	3.1000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	26.7135	26.7135	4.1500e-003	0.0000	26.8172
Total	**0.0127**	**0.2620**	**0.2041**	**3.1000e-004**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**26.7135**	**26.7135**	**4.1500e-003**	**0.0000**	**26.8172**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.9000e-004	0.0127	2.2600e-003	1.0000e-005	1.0000e-004	2.0000e-005	1.3000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	1.3505	1.3505	2.4000e-004	0.0000	1.3564
Vendor	5.5000e-004	0.0185	5.1700e-003	2.0000e-005	2.3000e-004	5.0000e-005	2.8000e-004	7.0000e-005	5.0000e-005	1.2000e-004	0.0000	1.7904	1.7904	2.8000e-004	0.0000	1.7975
Worker	1.8300e-003	8.8000e-004	0.0113	1.0000e-005	7.6000e-004	1.0000e-005	7.8000e-004	2.0000e-004	1.0000e-005	2.2000e-004	0.0000	0.9186	0.9186	7.0000e-005	0.0000	0.9202
Total	**2.6700e-003**	**0.0321**	**0.0187**	**4.0000e-005**	**1.0900e-003**	**8.0000e-005**	**1.1900e-003**	**3.0000e-004**	**8.0000e-005**	**3.9000e-004**	**0.0000**	**4.0594**	**4.0594**	**5.9000e-004**	**0.0000**	**4.0740**

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	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0127	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	1.7618	1.7618	1.5000e-004	0.0000	1.7655
Total	**0.0495**	**0.0127**	**0.0127**	**2.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**1.7618**	**1.7618**	**1.5000e-004**	**0.0000**	**1.7655**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.0000e-004	1.2500e-003	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1018	0.1018	1.0000e-005	0.0000	0.1020
Total	**2.0000e-004**	**1.0000e-004**	**1.2500e-003**	**0.0000**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1018**	**0.1018**	**1.0000e-005**	**0.0000**	**0.1020**

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	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9000e-004	0.0162	0.0126	2.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004	0.0000	1.7617	1.7617	1.5000e-004	0.0000	1.7655
Total	**0.0484**	**0.0162**	**0.0126**	**2.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.6000e-004**	**6.6000e-004**	**0.0000**	**1.7617**	**1.7617**	**1.5000e-004**	**0.0000**	**1.7655**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.0000e-004	1.2500e-003	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1018	0.1018	1.0000e-005	0.0000	0.1020
Total	**2.0000e-004**	**1.0000e-004**	**1.2500e-003**	**0.0000**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1018**	**0.1018**	**1.0000e-005**	**0.0000**	**0.1020**

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	0.1378					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0336	0.0365	6.0000e-005		2.2100e-003	2.2100e-003		2.2100e-003	2.2100e-003	0.0000	5.0937	5.0937	3.9000e-004	0.0000	5.1036
Total	**0.1426**	**0.0336**	**0.0365**	**6.0000e-005**		**2.2100e-003**	**2.2100e-003**		**2.2100e-003**	**2.2100e-003**	**0.0000**	**5.0937**	**5.0937**	**3.9000e-004**	**0.0000**	**5.1036**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	2.5000e-004	3.2300e-003	0.0000	2.4000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2856	0.2856	2.0000e-005	0.0000	0.2860
Total	**5.4000e-004**	**2.5000e-004**	**3.2300e-003**	**0.0000**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2856**	**0.2856**	**2.0000e-005**	**0.0000**	**0.2860**

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	0.1378					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2700e-003	0.0469	0.0366	6.0000e-005		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	5.0937	5.0937	3.9000e-004	0.0000	5.1036
Total	**0.1400**	**0.0469**	**0.0366**	**6.0000e-005**		**1.9000e-003**	**1.9000e-003**		**1.9000e-003**	**1.9000e-003**	**0.0000**	**5.0937**	**5.0937**	**3.9000e-004**	**0.0000**	**5.1036**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	2.5000e-004	3.2300e-003	0.0000	2.4000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2856	0.2856	2.0000e-005	0.0000	0.2860
Total	**5.4000e-004**	**2.5000e-004**	**3.2300e-003**	**0.0000**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2856**	**0.2856**	**2.0000e-005**	**0.0000**	**0.2860**

3.8 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0206	0.0213	3.0000e-005		1.1100e-003	1.1100e-003		1.0200e-003	1.0200e-003	0.0000	2.8861	2.8861	9.1000e-004	0.0000	2.9088

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0500e-003**	**0.0206**	**0.0213**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0200e-003**	**1.0200e-003**	**0.0000**	**2.8861**	**2.8861**	**9.1000e-004**	**0.0000**	**2.9088**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	2.0300e-003	3.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2280	0.2280	4.0000e-005	0.0000	0.2289
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.4000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0391	0.0391	0.0000	0.0000	0.0391
Total	**1.1000e-004**	**2.0600e-003**	**7.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.2671**	**0.2671**	**4.0000e-005**	**0.0000**	**0.2681**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	0.0281	0.0239	3.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	2.8861	2.8861	9.1000e-004	0.0000	2.9088
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3100e-003**	**0.0281**	**0.0239**	**3.0000e-005**		**9.5000e-004**	**9.5000e-004**		**9.5000e-004**	**9.5000e-004**	**0.0000**	**2.8861**	**2.8861**	**9.1000e-004**	**0.0000**	**2.9088**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	2.0300e-003	3.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2280	0.2280	4.0000e-005	0.0000	0.2289
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.4000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0391	0.0391	0.0000	0.0000	0.0391
Total	**1.1000e-004**	**2.0600e-003**	**7.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.2671**	**0.2671**	**4.0000e-005**	**0.0000**	**0.2681**

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	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165
Unmitigated	0.0523	0.2607	0.5806	1.7000e-003	0.1337	1.7800e-003	0.1355	0.0360	1.6700e-003	0.0377	0.0000	156.1415	156.1415	7.0000e-003	0.0000	156.3165

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

Apartments Mid Rise	159.60	153.36	140.64	360,299	360,299
Parking Lot	0.00	0.00	0.00		
Total	159.60	153.36	140.64	360,299	360,299

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
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
Apartments Mid Rise	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Parking Lot	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

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	13.8935	13.8935	1.3900e-003	2.9000e-004	14.0139
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	13.8935	13.8935	1.3900e-003	2.9000e-004	14.0139
NaturalGas Mitigated	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
NaturalGas Unmitigated	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
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		**1.1200e-003**	**9.5500e-003**	**4.0700e-003**	**6.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**11.0648**	**11.0648**	**2.1000e-004**	**2.0000e-004**	**11.1306**

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
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		**1.1200e-003**	**9.5500e-003**	**4.0700e-003**	**6.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**11.0648**	**11.0648**	**2.1000e-004**	**2.0000e-004**	**11.1306**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**13.8935**	**1.3900e-003**	**2.9000e-004**	**14.0139**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**13.8935**	**1.3900e-003**	**2.9000e-004**	**14.0139**

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	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634

Unmitigated	0.1260	2.8900e-003	0.1794	1.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.2506	1.2506	3.0000e-004	2.0000e-005	1.2634

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	0.0185					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.3000e-004	3.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9588	0.9588	2.0000e-005	2.0000e-005	0.9645
Landscaping	5.4500e-003	2.0700e-003	0.1790	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2919	0.2919	2.8000e-004	0.0000	0.2990
Total	**0.1260**	**2.9000e-003**	**0.1794**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**	**0.0000**	**1.2507**	**1.2507**	**3.0000e-004**	**2.0000e-005**	**1.2634**

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	0.0185					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.3000e-004	3.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9588	0.9588	2.0000e-005	2.0000e-005	0.9645
Landscaping	5.4500e-003	2.0700e-003	0.1790	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2919	0.2919	2.8000e-004	0.0000	0.2990

Total	**0.1260**	**2.9000e-003**	**0.1794**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**	**0.0000**	**1.2507**	**1.2507**	**3.0000e-004**	**2.0000e-005**	**1.2634**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.1201	2.0600e-003	1.2400e-003	2.5398
Unmitigated	2.1201	2.0600e-003	1.2400e-003	2.5398

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.1201**	**2.0600e-003**	**1.2400e-003**	**2.5398**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.1201**	**2.0600e-003**	**1.2400e-003**	**2.5398**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.2410	0.1324	0.0000	5.5520
Unmitigated	2.2410	0.1324	0.0000	5.5520

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.2410**	**0.1324**	**0.0000**	**5.5520**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.2410**	**0.1324**	**0.0000**	**5.5520**

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

18-109 Heritage House Napa - GHG - Sonoma-San Francisco County, Annual

18-109 Heritage House Napa - GHG

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	44.00	Space	0.00	18,686.00	0
Parking Lot	41.00	Space	0.00	16,400.00	0
Apartments Mid Rise	24.00	Dwelling Unit	1.30	25,785.00	69
Congregate Care (Assisted Living)	66.00	Dwelling Unit	1.62	38,770.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
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 - Valle Verde --> new construction (apartments); Heritage House --> Existing (congregate care)

Construction Phase - Operational GHG Run

Off-road Equipment - Operational Run

Vehicle Trips - Multifamily (valle verde): weekday-5.44, sat-5.23, sun-4.79, Congregate Care (heritage house): weekday-2.02, sat-1.62, sun-1.80

Woodstoves - All gas

Water And Wastewater - 100% aerobic

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	3.00	1.00
tblConstructionPhase	PhaseEndDate	6/5/2019	6/3/2019
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	3.60	7.68
tblFireplaces	NumberGas	9.90	21.10
tblFireplaces	NumberWood	4.08	0.00
tblFireplaces	NumberWood	11.22	0.00
tblGrading	AcresOfGrading	0.00	4.50
tblLandUse	LandUseSquareFeet	17,600.00	18,686.00
tblLandUse	LandUseSquareFeet	24,000.00	25,785.00
tblLandUse	LandUseSquareFeet	66,000.00	38,770.00
tblLandUse	LotAcreage	0.37	0.00
tblLandUse	LotAcreage	0.40	0.00
tblLandUse	LotAcreage	0.63	1.30
tblLandUse	LotAcreage	4.13	1.62
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	ST_TR	6.39	5.23
tblVehicleTrips	ST_TR	2.20	1.62
tblVehicleTrips	SU_TR	5.86	4.79
tblVehicleTrips	SU_TR	2.44	1.80
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	2.74	2.02
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
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	2.0000e-005	2.0000e-005	1.6000e-004	0.0000	2.4200e-003	0.0000	2.4200e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299
Maximum	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**2.4200e-003**	**0.0000**	**2.4200e-003**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

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	2.0000e-005	2.0000e-005	1.6000e-004	0.0000	2.4200e-003	0.0000	2.4200e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299
Maximum	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**2.4200e-003**	**0.0000**	**2.4200e-003**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

	ROG	NOx	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	**6-1-2019**	**8-31-2019**	0.0001	0.0001
		Highest	0.0001	0.0001

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	0.3213	0.0108	0.6718	6.0000e-005		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	4.6860	4.6860	1.1300e-003	7.0000e-005	4.7339
Energy	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	91.9830	91.9830	5.8400e-003	1.8100e-003	92.6670
Mobile	0.0855	0.4262	0.9494	2.7800e-003	0.2186	2.9000e-003	0.2215	0.0588	2.7300e-003	0.0616	0.0000	255.3170	255.3170	0.0115	0.0000	255.6033
Waste						0.0000	0.0000		0.0000	0.0000	14.4672	0.0000	14.4672	0.8550	0.0000	35.8418
Water						0.0000	0.0000		0.0000	0.0000	2.0746	5.8757	7.9504	7.7300e-003	4.6300e-003	9.5243
Total	**0.4109**	**0.4729**	**1.6364**	**3.0700e-003**	**0.2186**	**9.7500e-003**	**0.2284**	**0.0588**	**9.5800e-003**	**0.0684**	**16.5418**	**357.8617**	**374.4035**	**0.8811**	**6.5100e-003**	**398.3703**

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	0.3213	0.0108	0.6718	6.0000e-005		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	4.6860	4.6860	1.1300e-003	7.0000e-005	4.7339
Energy	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	91.9830	91.9830	5.8400e-003	1.8100e-003	92.6670
Mobile	0.0855	0.4262	0.9494	2.7800e-003	0.2186	2.9000e-003	0.2215	0.0588	2.7300e-003	0.0616	0.0000	255.3170	255.3170	0.0115	0.0000	255.6033
Waste						0.0000	0.0000		0.0000	0.0000	14.4672	0.0000	14.4672	0.8550	0.0000	35.8418
Water						0.0000	0.0000		0.0000	0.0000	2.0746	5.8757	7.9504	7.7300e-003	4.6300e-003	9.5243
Total	**0.4109**	**0.4729**	**1.6364**	**3.0700e-003**	**0.2186**	**9.7500e-003**	**0.2284**	**0.0588**	**9.5800e-003**	**0.0684**	**16.5418**	**357.8617**	**374.4035**	**0.8811**	**6.5100e-003**	**398.3703**

	ROG	NOx	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	6/1/2019	6/3/2019	5	1	

Acres of Grading (Site Preparation Phase): 4.5

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	7.00	97	0.37
Site Preparation	Scrapers	0	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	8.00	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					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	0.0000	0.0000	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**	**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**

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	2.0000e-005	1.6000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299
Total	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

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	0.0000	0.0000	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**	**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**

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	2.0000e-005	1.6000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299

Total	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

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	0.0855	0.4262	0.9494	2.7800e-003	0.2186	2.9000e-003	0.2215	0.0588	2.7300e-003	0.0616	0.0000	255.3170	255.3170	0.0115	0.0000	255.6033
Unmitigated	0.0855	0.4262	0.9494	2.7800e-003	0.2186	2.9000e-003	0.2215	0.0588	2.7300e-003	0.0616	0.0000	255.3170	255.3170	0.0115	0.0000	255.6033

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	130.56	125.52	114.96	294,732	294,732
Congregate Care (Assisted Living)	133.32	106.92	118.80	294,416	294,416
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	263.88	232.44	233.76	589,148	589,148

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
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Congregate Care (Assisted	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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
Apartments Mid Rise	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Congregate Care (Assisted Living)	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Parking Lot	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

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	50.4899	50.4899	5.0500e-003	1.0400e-003	50.9274
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	50.4899	50.4899	5.0500e-003	1.0400e-003	50.9274
NaturalGas Mitigated	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.4931	41.4931	8.0000e-004	7.6000e-004	41.7396
NaturalGas Unmitigated	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.4931	41.4931	8.0000e-004	7.6000e-004	41.7396

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
Congregate Care (Assisted Living)	570204	3.0700e-003	0.0263	0.0112	1.7000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	30.4282	30.4282	5.8000e-004	5.6000e-004	30.6091
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		**4.1900e-003**	**0.0358**	**0.0153**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.4931**	**41.4931**	**7.9000e-004**	**7.6000e-004**	**41.7396**

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
Congregate Care (Assisted Living)	570204	3.0700e-003	0.0263	0.0112	1.7000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	30.4282	30.4282	5.8000e-004	5.6000e-004	30.6091
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		**4.1900e-003**	**0.0358**	**0.0153**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.4931**	**41.4931**	**7.9000e-004**	**7.6000e-004**	**41.7396**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Congregate Care (Assisted Living)	272471	35.8413	3.5800e-003	7.4000e-004	36.1519

Parking Lot	5740	0.7551	8.0000e-005	2.0000e-005	0.7616
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**50.4899**	**5.0500e-003**	**1.0500e-003**	**50.9274**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Congregate Care (Assisted Living)	272471	35.8413	3.5800e-003	7.4000e-004	36.1519
Parking Lot	5740	0.7551	8.0000e-005	2.0000e-005	0.7616
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**50.4899**	**5.0500e-003**	**1.0500e-003**	**50.9274**

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	0.3213	0.0108	0.6718	6.0000e-005		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	4.6860	4.6860	1.1300e-003	7.0000e-005	4.7339
Unmitigated	0.3213	0.0108	0.6718	6.0000e-005		3.9500e-003	3.9500e-003		3.9500e-003	3.9500e-003	0.0000	4.6860	4.6860	1.1300e-003	7.0000e-005	4.7339

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	0.0462					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6000e-004	3.1000e-003	1.3200e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5929	3.5929	7.0000e-005	7.0000e-005	3.6142
Landscaping	0.0204	7.7400e-003	0.6705	4.0000e-005		3.6900e-003	3.6900e-003		3.6900e-003	3.6900e-003	0.0000	1.0931	1.0931	1.0600e-003	0.0000	1.1197
Total	**0.3213**	**0.0108**	**0.6718**	**6.0000e-005**		**3.9400e-003**	**3.9400e-003**		**3.9400e-003**	**3.9400e-003**	**0.0000**	**4.6860**	**4.6860**	**1.1300e-003**	**7.0000e-005**	**4.7339**

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	0.0462					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6000e-004	3.1000e-003	1.3200e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5929	3.5929	7.0000e-005	7.0000e-005	3.6142

Landscaping	0.0204	7.7400e-003	0.6705	4.0000e-005		3.6900e-003	3.6900e-003		3.6900e-003	3.6900e-003	0.0000	1.0931	1.0931	1.0600e-003	0.0000	1.1197
Total	**0.3213**	**0.0108**	**0.6718**	**6.0000e-005**		**3.9400e-003**	**3.9400e-003**		**3.9400e-003**	**3.9400e-003**	**0.0000**	**4.6860**	**4.6860**	**1.1300e-003**	**7.0000e-005**	**4.7339**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.9504	7.7300e-003	4.6300e-003	9.5243
Unmitigated	7.9504	7.7300e-003	4.6300e-003	9.5243

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Congregate Care (Assisted Living)	4.30017 / 2.71097	5.8303	5.6700e-003	3.4000e-003	6.9845
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.9504**	**7.7300e-003**	**4.6400e-003**	**9.5243**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Congregate Care (Assisted Living)	4.30017 / 2.71097	5.8303	5.6700e-003	3.4000e-003	6.9845
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.9504**	**7.7300e-003**	**4.6400e-003**	**9.5243**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.4672	0.8550	0.0000	35.8418
Unmitigated	14.4672	0.8550	0.0000	35.8418

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Congregate Care (Assisted Living)	60.23	12.2262	0.7225	0.0000	30.2898
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**14.4672**	**0.8550**	**0.0000**	**35.8418**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Congregate Care (Assisted Living)	60.23	12.2262	0.7225	0.0000	30.2898
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**14.4672**	**0.8550**	**0.0000**	**35.8418**

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

18-109 Heritage House Napa - GHG - Sonoma-San Francisco County, Annual

18-109 Heritage House Napa - GHG

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	44.00	Space	0.00	18,686.00	0
Parking Lot	41.00	Space	0.00	16,400.00	0
Apartments Mid Rise	24.00	Dwelling Unit	1.30	25,785.00	69
Congregate Care (Assisted Living)	66.00	Dwelling Unit	1.62	38,770.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
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 - Valle Verde --> new construction (apartments); Heritage House --> Existing (congregate care)

Construction Phase - Operational GHG Run

Off-road Equipment - Operational Run

Vehicle Trips - Multifamily (valle verde): weekday-5.44, sat-5.23, sun-4.79, Congregate Care (heritage house): weekday-2.02, sat-1.62, sun-1.80

Woodstoves - All gas

Water And Wastewater - 100% aerobic

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	3.00	1.00
tblConstructionPhase	PhaseEndDate	6/5/2019	6/3/2019
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	3.60	7.68
tblFireplaces	NumberGas	9.90	21.10
tblFireplaces	NumberWood	4.08	0.00
tblFireplaces	NumberWood	11.22	0.00
tblGrading	AcresOfGrading	0.00	4.50
tblLandUse	LandUseSquareFeet	17,600.00	18,686.00
tblLandUse	LandUseSquareFeet	24,000.00	25,785.00
tblLandUse	LandUseSquareFeet	66,000.00	38,770.00
tblLandUse	LotAcreage	0.37	0.00
tblLandUse	LotAcreage	0.40	0.00
tblLandUse	LotAcreage	0.63	1.30
tblLandUse	LotAcreage	4.13	1.62
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	ST_TR	6.39	5.23
tblVehicleTrips	ST_TR	2.20	1.62
tblVehicleTrips	SU_TR	5.86	4.79
tblVehicleTrips	SU_TR	2.44	1.80
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	2.74	2.02
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
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	2.0000e-005	2.0000e-005	1.6000e-004	0.0000	2.4200e-003	0.0000	2.4200e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299
Maximum	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**2.4200e-003**	**0.0000**	**2.4200e-003**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

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	2.0000e-005	2.0000e-005	1.6000e-004	0.0000	2.4200e-003	0.0000	2.4200e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299
Maximum	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**2.4200e-003**	**0.0000**	**2.4200e-003**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

	ROG	NOx	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	**6-1-2019**	**8-31-2019**	0.0001	0.0001
		Highest	0.0001	0.0001

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	0.3209	0.0108	0.6686	6.0000e-005		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	4.6860	4.6860	1.1100e-003	7.0000e-005	4.7334
Energy	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	91.9830	91.9830	5.8400e-003	1.8100e-003	92.6670
Mobile	0.0448	0.2737	0.4901	2.1600e-003	0.2183	1.5100e-003	0.2198	0.0587	1.4000e-003	0.0601	0.0000	199.9698	199.9698	6.9800e-003	0.0000	200.1444
Waste						0.0000	0.0000		0.0000	0.0000	14.4672	0.0000	14.4672	0.8550	0.0000	35.8418
Water						0.0000	0.0000		0.0000	0.0000	2.0746	5.8757	7.9504	7.7300e-003	4.6300e-003	9.5243
Total	**0.3699**	**0.3203**	**1.1740**	**2.4500e-003**	**0.2183**	**8.3700e-003**	**0.2267**	**0.0587**	**8.2600e-003**	**0.0670**	**16.5418**	**302.5145**	**319.0563**	**0.8767**	**6.5100e-003**	**342.9109**

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	0.3209	0.0108	0.6686	6.0000e-005		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	4.6860	4.6860	1.1100e-003	7.0000e-005	4.7334
Energy	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	91.9830	91.9830	5.8400e-003	1.8100e-003	92.6670
Mobile	0.0448	0.2737	0.4901	2.1600e-003	0.2183	1.5100e-003	0.2198	0.0587	1.4000e-003	0.0601	0.0000	199.9698	199.9698	6.9800e-003	0.0000	200.1444
Waste						0.0000	0.0000		0.0000	0.0000	14.4672	0.0000	14.4672	0.8550	0.0000	35.8418
Water						0.0000	0.0000		0.0000	0.0000	2.0746	5.8757	7.9504	7.7300e-003	4.6300e-003	9.5243
Total	**0.3699**	**0.3203**	**1.1740**	**2.4500e-003**	**0.2183**	**8.3700e-003**	**0.2267**	**0.0587**	**8.2600e-003**	**0.0670**	**16.5418**	**302.5145**	**319.0563**	**0.8767**	**6.5100e-003**	**342.9109**

	ROG	NOx	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	6/1/2019	6/3/2019	5	1	

Acres of Grading (Site Preparation Phase): 4.5

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	7.00	97	0.37
Site Preparation	Scrapers	0	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	8.00	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					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	0.0000	0.0000	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**	**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**

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	2.0000e-005	1.6000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299
Total	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

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	0.0000	0.0000	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**	**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**

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	2.0000e-005	1.6000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0299

Total	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0298**	**0.0298**	**0.0000**	**0.0000**	**0.0299**

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	0.0448	0.2737	0.4901	2.1600e-003	0.2183	1.5100e-003	0.2198	0.0587	1.4000e-003	0.0601	0.0000	199.9698	199.9698	6.9800e-003	0.0000	200.1444
Unmitigated	0.0448	0.2737	0.4901	2.1600e-003	0.2183	1.5100e-003	0.2198	0.0587	1.4000e-003	0.0601	0.0000	199.9698	199.9698	6.9800e-003	0.0000	200.1444

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	130.56	125.52	114.96	294,732	294,732
Congregate Care (Assisted Living)	133.32	106.92	118.80	294,416	294,416
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	263.88	232.44	233.76	589,148	589,148

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
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Congregate Care (Assisted	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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
Apartments Mid Rise	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Congregate Care (Assisted Living)	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Parking Lot	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662

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	50.4899	50.4899	5.0500e-003	1.0400e-003	50.9274
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	50.4899	50.4899	5.0500e-003	1.0400e-003	50.9274
NaturalGas Mitigated	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.4931	41.4931	8.0000e-004	7.6000e-004	41.7396
NaturalGas Unmitigated	4.1900e-003	0.0358	0.0153	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.4931	41.4931	8.0000e-004	7.6000e-004	41.7396

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
Congregate Care (Assisted Living)	570204	3.0700e-003	0.0263	0.0112	1.7000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	30.4282	30.4282	5.8000e-004	5.6000e-004	30.6091
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		**4.1900e-003**	**0.0358**	**0.0153**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.4931**	**41.4931**	**7.9000e-004**	**7.6000e-004**	**41.7396**

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					
Apartments Mid Rise	207347	1.1200e-003	9.5500e-003	4.0700e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0648	11.0648	2.1000e-004	2.0000e-004	11.1306
Congregate Care (Assisted Living)	570204	3.0700e-003	0.0263	0.0112	1.7000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	30.4282	30.4282	5.8000e-004	5.6000e-004	30.6091
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		**4.1900e-003**	**0.0358**	**0.0153**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.4931**	**41.4931**	**7.9000e-004**	**7.6000e-004**	**41.7396**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Congregate Care (Assisted Living)	272471	35.8413	3.5800e-003	7.4000e-004	36.1519

Parking Lot	5740	0.7551	8.0000e-005	2.0000e-005	0.7616
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**50.4899**	**5.0500e-003**	**1.0500e-003**	**50.9274**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	99080.4	13.0332	1.3000e-003	2.7000e-004	13.1462
Congregate Care (Assisted Living)	272471	35.8413	3.5800e-003	7.4000e-004	36.1519
Parking Lot	5740	0.7551	8.0000e-005	2.0000e-005	0.7616
Parking Lot	6540.1	0.8603	9.0000e-005	2.0000e-005	0.8678
Total		**50.4899**	**5.0500e-003**	**1.0500e-003**	**50.9274**

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	0.3209	0.0108	0.6686	6.0000e-005		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	4.6860	4.6860	1.1100e-003	7.0000e-005	4.7334
Unmitigated	0.3209	0.0108	0.6686	6.0000e-005		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	4.6860	4.6860	1.1100e-003	7.0000e-005	4.7334

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	0.0462					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6000e-004	3.1000e-003	1.3200e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5929	3.5929	7.0000e-005	7.0000e-005	3.6142
Landscaping	0.0200	7.6900e-003	0.6673	4.0000e-005		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	1.0931	1.0931	1.0400e-003	0.0000	1.1192
Total	**0.3209**	**0.0108**	**0.6686**	**6.0000e-005**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**4.6860**	**4.6860**	**1.1100e-003**	**7.0000e-005**	**4.7334**

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	0.0462					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6000e-004	3.1000e-003	1.3200e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5929	3.5929	7.0000e-005	7.0000e-005	3.6142

Landscaping	0.0200	7.6900e-003	0.6673	4.0000e-005		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	1.0931	1.0931	1.0400e-003	0.0000	1.1192
Total	**0.3209**	**0.0108**	**0.6686**	**6.0000e-005**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**4.6860**	**4.6860**	**1.1100e-003**	**7.0000e-005**	**4.7334**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.9504	7.7300e-003	4.6300e-003	9.5243
Unmitigated	7.9504	7.7300e-003	4.6300e-003	9.5243

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Congregate Care (Assisted Living)	4.30017 / 2.71097	5.8303	5.6700e-003	3.4000e-003	6.9845
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.9504**	**7.7300e-003**	**4.6400e-003**	**9.5243**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.5637 / 0.985809	2.1201	2.0600e-003	1.2400e-003	2.5398
Congregate Care (Assisted Living)	4.30017 / 2.71097	5.8303	5.6700e-003	3.4000e-003	6.9845
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.9504**	**7.7300e-003**	**4.6400e-003**	**9.5243**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.4672	0.8550	0.0000	35.8418
Unmitigated	14.4672	0.8550	0.0000	35.8418

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Congregate Care (Assisted Living)	60.23	12.2262	0.7225	0.0000	30.2898
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**14.4672**	**0.8550**	**0.0000**	**35.8418**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	11.04	2.2410	0.1324	0.0000	5.5520
Congregate Care (Assisted Living)	60.23	12.2262	0.7225	0.0000	30.2898
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**14.4672**	**0.8550**	**0.0000**	**35.8418**

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

Attachment 3: Construction Health Risk Calculations

Heritage House, Napa, CA

DPM Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2019*	Construction	0.0242	CON_DPM	48.5	0.01475	1.86E-03	6,008	3.09E-07

* 2019 emissions include 14 days of emissions from 2020.

Construction Hours

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

PM2.5 Fugitive Dust Emissions for Modeling

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2019*	Construction	CON_FUG	0.01058	21.2	0.00644	8.12E-04	6,008	1.35E-07

* 2019 emissions include 14 days of emissions from 2020.

Construction Hours

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

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2019*	Construction	0.0179	CON_DPM	35.7	0.01087	1.37E-03	6,008	2.28E-07

* 2019 emissions include 14 days of emissions from 2020.

Construction Hours

hr/day =	10	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

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

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2019*	Construction	CON_FUG	0.00274	5.5	0.00167	2.10E-04	6,008	3.50E-08

* 2019 emissions include 14 days of emissions from 2020.

Construction Hours

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

Heritage House, Napa, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Unmitigated

Emissions Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	Adult	(-)	($\mu g/m^3$)
2019-2020	0.0765	0.0397	**12.6**	**0.2**	**0.015**	**0.12**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	Adult	(-)	($\mu g/m^3$)
2019-2020	0.0565	0.0090	**9.3**	**0.2**	**0.011**	**0.07**

Heritage House, Napa, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

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

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

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 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	Maximum	
				DPM Conc (ug/m3)	Age	Cancer	Modeled		Age	Cancer		
Exposure	Exposure Duration				Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0765	10	12.57	2019	0.0765	1	0.22	0.0397	0.116
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						**12.6**				**0.22**		

* Third trimester of pregnancy

Heritage House, Napa, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 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	Maximum	
							Modeled					
Exposure	**Exposure Duration**		**DPM Conc (ug/m3)**		**Age Sensitivity**	**Cancer Risk**	**DPM Conc (ug/m3)**		**Age Sensitivity**	**Cancer Risk**	**Fugitive**	**Total**
Year	**(years)**	**Age**	**Year**	**Annual**	**Factor**	**(per million)**	**Year**	**Annual**	**Factor**	**(per million)**	**PM2.5**	**PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0680	10	11.17	2019	0.0680	1	0.20	0.0353	0.103
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						**11.2**				**0.20**		

* Third trimester of pregnancy

Heritage House, Napa, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

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

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

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 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	Maximum	
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0565	10	9.27	2019	0.0565	1	0.16	0.0090	0.065
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						**9.3**				**0.16**		

* Third trimester of pregnancy

Attachment 4: Community Risk Screening

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**8/21/2018**
Contact Name	Casey Zaglin
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x23
Email	czaglin@illingworthrodkin.com
Project Name	18-109 Heritage House
Address	3700 Valle Verde Drive
City	Napa
County	Napa
Type (residential, commercial, mixed use, industrial, etc.)	Residential
Project Size (# of units or building square feet)	24 DU

Comments:

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in **Table A** ncomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in **Table B** section only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Facility Name	Address	Plant No.	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
950	Queen of the Valley Medical Center	1000 Trancas St	1082	318.15231	0.1675	0.414486	S7-S11	Generators	98	Use Diesel IC Multiplier

Construction MEI

Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
0.04	12.7	0.01	0.02

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

Date last updated: