PAGE STREET HOUSING AIR QUALITY AND GHG ASSESSMENT

San José, California

August 15, 2018

Prepared for:

Amber Sharpe
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San José, CA 95126

Prepared by:

James A. Reyff and
Casey T. Zaglin

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
1 Willowbrook Court, Suite 120
Petaluma, CA 94954
(707) 794-0400

I&R Job No.:18-038

Introduction

This report presents the results of the criteria air pollutant and greenhouse has (GHG) emissions analysis completed for the proposed Page Street Housing Project. The project would demolish the existing residences and then construct a five-story, 82-unit apartment complex. Air pollutant and GHG emissions associated with construction and operation of the project were modeled. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under California Environmental Quality Act (CEQA). These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 1. The BAAQMD's adoption of significance thresholds, which were contained in the 2011 *CEQA Air Quality Guidelines*, was called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). In December 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project – known as "CEQA-in-reverse" – is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). Because the Supreme Court's holding concerns the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment), and not the science behind the thresholds, the significance thresholds contained in the *CEQA Air Quality Guidelines*[1] are applied to this project. BAAQMD's updated 2017 *CEQA Air Quality Guidelines* are the most recent guidance and address the Court's ruling. This guidance and the recommended significance thresholds were applied to this study.

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

Table 1. Air Quality 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	

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.

Criteria Air Pollutant Emissions

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

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

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod is included as *Attachment 1*.

Construction period emissions

CalEEMod provided annual emissions for construction. CalEEMod provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. A construction build-out scenario, including equipment list and schedule, was based on CalEEMod defaults. The proposed project land uses were input into CalEEMod, which included: 82 dwelling units entered as "Apartment Mid Rise," 56 spaces as "Enclosed Parking Structure," and 6 spaces as "Unenclosed Parking Structure." In addition, demolition of 7,500 square feet (sf) of building was estimated and was entered into the model.

The project schedule assumes about 20 months of construction beginning in early 2019. The CalEEMod default model conditions that were used, which predicted a more aggressive schedule, assumed 13 months beginning in early 2019. Based on the CalEEMod default assumptions, there are an estimated 269 construction workdays. Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 2 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 2, predicted the construction period emissions would not exceed the BAAQMD significance thresholds.

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

Table 2. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	0.68 tons	2.64 tons	0.14 tons	0.14 tons
Average daily emissions (pounds)[1]	**5 lbs./day**	**19.6 lbs./day**	**1 lbs./day**	**1 lbs./day**
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	**No**	**No**	**No**	**No**
Notes: [1]Assumes 269 workdays.				

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents. Evaporative emissions from architectural coatings and maintenance products

(classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

Land Uses

The project land uses were input to CalEEMod, as described above.

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 *(Attachment 1)* from the project's traffic analysis. The default trip lengths and trip types specified by CalEEMod were used.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards.

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.

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. The predicted annual and average daily emissions would not exceed the BAAQMD significance thresholds.

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2021 Project Operational Emissions (*tons/year*)	0.34 tons	0.50 tons	0.38 tons	0.11 tons
Existing	0.05 tons	0.04 tons	0.03 tons	0.01 tons
Net Increase	**0.29 tons**	**0.46 tons**	**0.35 tons**	**0.10 tons**
BAAQMD Thresholds (tons/year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	***No***	***No***	***No***	***No***
Net Increase	**1.59 lbs.**	**2.52 lbs.**	**1.92 lbs.**	**0.55**
BAAQMD Thresholds (pounds/day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	***No***	***No***	***No***	***No***
Notes: [1] Assumes 365-day operation.				

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

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

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

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

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

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

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

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

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

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.

Emission-Based Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population. This is calculated for 2030 based on the GHG reduction goals of EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[2]

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 1*.

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 the emission rate for delivered electricity had been reduced to 405 pounds CO_2 per megawatt of

[2] 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.

electricity delivered.[3] 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.[4]

Service Population Emissions

The proposed development would include 81 studios and one three-bedroom residential unit. The project service population efficiency rate is based on the number of future residents. The number of future residences is estimated at 165 based on the latest US Census data of 3.13 average persons per household for the City of San Jose for the three-bedroom unit and the maximum residents allowed per studio (two residents per unit).[5]

Construction Emissions

GHG emissions associated with construction were computed to be 351 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Best management practices assumed to be incorporated into construction of the proposed project include but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. In 2021 as shown in Table 4, annual emissions resulting from operation of the proposed project are predicted to be 502 MT of CO_2e. The annual emissions from operation of the existing buildings are computed as 40 MT of CO_2e. The net emissions resulting from the project would be 462 MT of CO_2e. These emissions would not exceed the BAAQMD threshold of 1,100 MT of CO_2e/yr. As shown in Table 4, emissions would be below the BAAQMD threshold for 2020 and the projected future threshold (i.e., for 2030).

[3] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[4] 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
[5] U.S. Census, 2012-16. See: https://www.census.gov/quickfacts/fact/table/sanjosecitycalifornia,US/HSD310216#viewtop Accessed March 13, 2018.

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

Source Category	Existing	Proposed Project in 2021
Area	.3	4.3
Energy Consumption	5.6	86.8
Mobile	32.2	383.4
Solid Waste Generation	1.2	19.0
Water Usage	0.5	8.7
Total	39.8	502.2
Net New Emissions		462.4
Significance Threshold		***1,100 MT CO_2e/yr***
Service Population Emissions		3.04
Significance Threshold		***4.6 in 2020 2.6 in 2030***

Attachment 1: CalEEMod Modeling Output and Trip Generation Table

18-038 Page St Housing, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	56.00	Space	0.00	5,000.00	0
Unenclosed Parking Structure	6.00	Space	0.00	500.00	0
Apartments Mid Rise	82.00	Dwelling Unit	2.16	45,749.00	235

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity = 290

Land Use - SF" Parking = 5,500 Res=45,749

Vehicle Trips - Mid Rise weedday = 5.44, Sat = 5.44*(6.39/6.65)=5.23, Sun = 5.44*(5.86/6.65)=4.79

Woodstoves - Wood Mass = 0, Wood # added to Gas #

Water And Wastewater - 100% Aerobic

Demolition - Existing SF = 7,500

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	12.30	26.24
tblFireplaces	NumberWood	13.94	0.00
tblLandUse	LandUseSquareFeet	22,400.00	5,000.00
tblLandUse	LandUseSquareFeet	2,400.00	500.00
tblLandUse	LandUseSquareFeet	82,000.00	45,749.00
tblLandUse	LotAcreage	0.50	0.00
tblLandUse	LotAcreage	0.05	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	6.39	5.23
tblVehicleTrips	SU_TR	5.86	4.79
tblVehicleTrips	WD_TR	6.65	5.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.4151	2.6351	2.1694	4.0400e-003	0.0885	0.1424	0.2310	0.0278	0.1359	0.1637	0.0000	348.3533	348.3533	0.0616	0.0000	349.8924
2020	0.2597	6.8500e-003	8.5300e-003	2.0000e-005	3.8000e-004	4.5000e-004	8.3000e-004	1.0000e-004	4.5000e-004	5.5000e-004	0.0000	1.3478	1.3478	9.0000e-005	0.0000	1.3500
Maximum	**0.4151**	**2.6351**	**2.1694**	**4.0400e-003**	**0.0885**	**0.1424**	**0.2310**	**0.0278**	**0.1359**	**0.1637**	**0.0000**	**348.3533**	**348.3533**	**0.0616**	**0.0000**	**349.8924**

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	0.4151	2.6351	2.1694	4.0400e-003	0.0885	0.1424	0.2310	0.0278	0.1359	0.1637	0.0000	348.3530	348.3530	0.0616	0.0000	349.8921
2020	0.2597	6.8500e-003	8.5300e-003	2.0000e-005	3.8000e-004	4.5000e-004	8.3000e-004	1.0000e-004	4.5000e-004	5.5000e-004	0.0000	1.3478	1.3478	9.0000e-005	0.0000	1.3500
Maximum	**0.4151**	**2.6351**	**2.1694**	**4.0400e-003**	**0.0885**	**0.1424**	**0.2310**	**0.0278**	**0.1359**	**0.1637**	**0.0000**	**348.3530**	**348.3530**	**0.0616**	**0.0000**	**349.8921**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	0.7748	0.7748
2	**4-1-2019**	**6-30-2019**	0.7521	0.7521
3	**7-1-2019**	**9-30-2019**	0.7603	0.7603
4	**10-1-2019**	**12-31-2019**	0.7784	0.7784
5	**1-1-2020**	**3-31-2020**	0.2380	0.2380
		Highest	0.7784	0.7784

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	0.2302	9.8800e-003	0.6120	5.0000e-005		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003	0.0000	4.2715	4.2715	1.0300e-003	6.0000e-005	4.3151
Energy	3.8200e-003	0.0326	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	86.1792	86.1792	5.5600e-003	1.6900e-003	86.8231
Mobile	0.1090	0.4554	1.2721	4.1900e-003	0.3745	3.6300e-003	0.3781	0.1002	3.3900e-003	0.1036	0.0000	383.0468	383.0468	0.0134	0.0000	383.3813
Waste						0.0000	0.0000		0.0000	0.0000	7.6568	0.0000	7.6568	0.4525	0.0000	18.9695
Water						0.0000	0.0000		0.0000	0.0000	1.8902	5.3534	7.2437	7.0400e-003	4.2200e-003	8.6777
Total	**0.3430**	**0.4979**	**1.8980**	**4.4500e-003**	**0.3745**	**9.8600e-003**	**0.3843**	**0.1002**	**9.6200e-003**	**0.1099**	**9.5471**	**478.8509**	**488.3980**	**0.4795**	**5.9700e-003**	**502.1666**

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	0.2302	9.8800e-003	0.6120	5.0000e-005		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003	0.0000	4.2715	4.2715	1.0300e-003	6.0000e-005	4.3151
Energy	3.8200e-003	0.0326	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	86.1792	86.1792	5.5600e-003	1.6900e-003	86.8231
Mobile	0.1090	0.4554	1.2721	4.1900e-003	0.3745	3.6300e-003	0.3781	0.1002	3.3900e-003	0.1036	0.0000	383.0468	383.0468	0.0134	0.0000	383.3813
Waste						0.0000	0.0000		0.0000	0.0000	7.6568	0.0000	7.6568	0.4525	0.0000	18.9695
Water						0.0000	0.0000		0.0000	0.0000	1.8902	5.3534	7.2437	7.0400e-003	4.2200e-003	8.6777

Total	0.3430	0.4979	1.8980	4.4500e-003	0.3745	9.8600e-003	0.3843	0.1002	9.6200e-003	0.1099	9.5471	478.8509	488.3980	0.4795	5.9700e-003	502.1666

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

3.0 Construction Detail

Construction Phase

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

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 92,642; Residential Outdoor: 30,881; 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	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	34.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	61.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	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					3.6900e-003	0.0000	3.6900e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**3.6900e-003**	**0.0129**	**0.0166**	**5.6000e-004**	**0.0120**	**0.0126**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	5.2900e-003	1.0500e-003	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3101	1.3101	6.0000e-005	0.0000	1.3116
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	4.7000e-004	3.5000e-004	3.6300e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9127	0.9127	2.0000e-005	0.0000	0.9133
Total	**6.2000e-004**	**5.6400e-003**	**4.6800e-003**	**2.0000e-005**	**1.3200e-003**	**3.0000e-005**	**1.3500e-003**	**3.5000e-004**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**2.2228**	**2.2228**	**8.0000e-005**	**0.0000**	**2.2250**

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					3.6900e-003	0.0000	3.6900e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**3.6900e-003**	**0.0129**	**0.0166**	**5.6000e-004**	**0.0120**	**0.0126**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	5.2900e-003	1.0500e-003	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3101	1.3101	6.0000e-005	0.0000	1.3116
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	4.7000e-004	3.5000e-004	3.6300e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9127	0.9127	2.0000e-005	0.0000	0.9133
Total	**6.2000e-004**	**5.6400e-003**	**4.6800e-003**	**2.0000e-005**	**1.3200e-003**	**3.0000e-005**	**1.3500e-003**	**3.5000e-004**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**2.2228**	**2.2228**	**8.0000e-005**	**0.0000**	**2.2250**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0843	0.0843	0.0000	0.0000	0.0843
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0843**	**0.0843**	**0.0000**	**0.0000**	**0.0843**

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0843	0.0843	0.0000	0.0000	0.0843
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0843**	**0.0843**	**0.0000**	**0.0000**	**0.0843**

3.4 Grading - 2019

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	**1.1000e-004**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2106**	**0.2106**	**1.0000e-005**	**0.0000**	**0.2108**

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	**1.1000e-004**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2106**	**0.2106**	**1.0000e-005**	**0.0000**	**0.2108**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2814	2.0801	1.6780	2.7500e-003		0.1199	0.1199		0.1149	0.1149	0.0000	230.7297	230.7297	0.0480	0.0000	231.9297
Total	**0.2814**	**2.0801**	**1.6780**	**2.7500e-003**		**0.1199**	**0.1199**		**0.1149**	**0.1149**	**0.0000**	**230.7297**	**230.7297**	**0.0480**	**0.0000**	**231.9297**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3900e-003	0.1389	0.0373	3.0000e-004	7.2400e-003	1.0000e-003	8.2300e-003	2.0900e-003	9.5000e-004	3.0500e-003	0.0000	28.9357	28.9357	1.4400e-003	0.0000	28.9716
Worker	0.0244	0.0182	0.1875	5.2000e-004	0.0532	3.5000e-004	0.0536	0.0142	3.2000e-004	0.0145	0.0000	47.1098	47.1098	1.2800e-003	0.0000	47.1419
Total	**0.0298**	**0.1571**	**0.2247**	**8.2000e-004**	**0.0605**	**1.3500e-003**	**0.0618**	**0.0162**	**1.2700e-003**	**0.0175**	**0.0000**	**76.0455**	**76.0455**	**2.7200e-003**	**0.0000**	**76.1134**

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	0.2814	2.0801	1.6780	2.7500e-003		0.1199	0.1199		0.1149	0.1149	0.0000	230.7295	230.7295	0.0480	0.0000	231.9294
Total	**0.2814**	**2.0801**	**1.6780**	**2.7500e-003**		**0.1199**	**0.1199**		**0.1149**	**0.1149**	**0.0000**	**230.7295**	**230.7295**	**0.0480**	**0.0000**	**231.9294**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3900e-003	0.1389	0.0373	3.0000e-004	7.2400e-003	1.0000e-003	8.2300e-003	2.0900e-003	9.5000e-004	3.0500e-003	0.0000	28.9357	28.9357	1.4400e-003	0.0000	28.9716
Worker	0.0244	0.0182	0.1875	5.2000e-004	0.0532	3.5000e-004	0.0536	0.0142	3.2000e-004	0.0145	0.0000	47.1098	47.1098	1.2800e-003	0.0000	47.1419
Total	**0.0298**	**0.1571**	**0.2247**	**8.2000e-004**	**0.0605**	**1.3500e-003**	**0.0618**	**0.0162**	**1.2700e-003**	**0.0175**	**0.0000**	**76.0455**	**76.0455**	**2.7200e-003**	**0.0000**	**76.1134**

3.6 Paving - 2019

Unmitigated Construction On-Site

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

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2300e-003**	**0.0628**	**0.0593**	**9.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.9208**	**7.9208**	**2.4600e-003**	**0.0000**	**7.9823**

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	2.7000e-004	2.0000e-004	2.1000e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5266	0.5266	1.0000e-005	0.0000	0.5269
Total	**2.7000e-004**	**2.0000e-004**	**2.1000e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5266**	**0.5266**	**1.0000e-005**	**0.0000**	**0.5269**

Mitigated Construction On-Site

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

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	2.7000e-004	2.0000e-004	2.1000e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5266	0.5266	1.0000e-005	0.0000	0.5269
Total	**2.7000e-004**	**2.0000e-004**	**2.1000e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5266**	**0.5266**	**1.0000e-005**	**0.0000**	**0.5269**

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	0.0646					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0649**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

Unmitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0843	0.0843	0.0000	0.0000	0.0843
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0843**	**0.0843**	**0.0000**	**0.0000**	**0.0843**

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	0.0646					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0649**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

Mitigated Construction Off-Site

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

Worker	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0843	0.0843	0.0000	0.0000	0.0843
Total	**4.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0843**	**0.0843**	**0.0000**	**0.0000**	**0.0843**

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	0.2586					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.2595**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3265	0.3265	1.0000e-005	0.0000	0.3267
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3265**	**0.3265**	**1.0000e-005**	**0.0000**	**0.3267**

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	0.2586					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.2595**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3265	0.3265	1.0000e-005	0.0000	0.3267
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3265**	**0.3265**	**1.0000e-005**	**0.0000**	**0.3267**

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	0.1090	0.4554	1.2721	4.1900e-003	0.3745	3.6300e-003	0.3781	0.1002	3.3900e-003	0.1036	0.0000	383.0468	383.0468	0.0134	0.0000	383.3813
Unmitigated	0.1090	0.4554	1.2721	4.1900e-003	0.3745	3.6300e-003	0.3781	0.1002	3.3900e-003	0.1036	0.0000	383.0468	383.0468	0.0134	0.0000	383.3813

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	446.08	428.86	392.78	1,007,002	1,007,002
Enclosed Parking Structure	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	446.08	428.86	392.78	1,007,002	1,007,002

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
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	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	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Enclosed Parking Structure	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Unenclosed Parking Structure	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

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	48.3745	48.3745	4.8400e-003	1.0000e-003	48.7936
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	48.3745	48.3745	4.8400e-003	1.0000e-003	48.7936
NaturalGas Mitigated	3.8200e-003	0.0326	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8048	37.8048	7.2000e-004	6.9000e-004	38.0294
NaturalGas Unmitigated	3.8200e-003	0.0326	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8048	37.8048	7.2000e-004	6.9000e-004	38.0294

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	708435	3.8200e-003	0.0326	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8048	37.8048	7.2000e-004	6.9000e-004	38.0294
Enclosed Parking Structure	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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.8200e-003**	**0.0326**	**0.0139**	**2.1000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**37.8048**	**37.8048**	**7.2000e-004**	**6.9000e-004**	**38.0294**

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	708435	3.8200e-003	0.0326	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8048	37.8048	7.2000e-004	6.9000e-004	38.0294
Enclosed Parking Structure	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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.8200e-003**	**0.0326**	**0.0139**	**2.1000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**37.8048**	**37.8048**	**7.2000e-004**	**6.9000e-004**	**38.0294**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	338525	44.5301	4.4500e-003	9.2000e-004	44.9160
Enclosed Parking Structure	28350	3.7292	3.7000e-004	8.0000e-005	3.7615
Unenclosed Parking Structure	875	0.1151	1.0000e-005	0.0000	0.1161
Total		**48.3745**	**4.8300e-003**	**1.0000e-003**	**48.7937**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	338525	44.5301	4.4500e-003	9.2000e-004	44.9160
Enclosed Parking Structure	28350	3.7292	3.7000e-004	8.0000e-005	3.7615
Unenclosed Parking Structure	875	0.1151	1.0000e-005	0.0000	0.1161
Total		**48.3745**	**4.8300e-003**	**1.0000e-003**	**48.7937**

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	0.2302	9.8800e-003	0.6120	5.0000e-005		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003	0.0000	4.2715	4.2715	1.0300e-003	6.0000e-005	4.3151
Unmitigated	0.2302	9.8800e-003	0.6120	5.0000e-005		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003	0.0000	4.2715	4.2715	1.0300e-003	6.0000e-005	4.3151

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	0.0323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.3000e-004	2.8300e-003	1.2000e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.2758	3.2758	6.0000e-005	6.0000e-005	3.2953
Landscaping	0.0185	7.0500e-003	0.6108	3.0000e-005		3.3700e-003	3.3700e-003		3.3700e-003	3.3700e-003	0.0000	0.9957	0.9957	9.7000e-004	0.0000	1.0198
Total	**0.2302**	**9.8800e-003**	**0.6120**	**5.0000e-005**		**3.6000e-003**	**3.6000e-003**		**3.6000e-003**	**3.6000e-003**	**0.0000**	**4.2715**	**4.2715**	**1.0300e-003**	**6.0000e-005**	**4.3151**

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	0.0323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.3000e-004	2.8300e-003	1.2000e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.2758	3.2758	6.0000e-005	6.0000e-005	3.2953
Landscaping	0.0185	7.0500e-003	0.6108	3.0000e-005		3.3700e-003	3.3700e-003		3.3700e-003	3.3700e-003	0.0000	0.9957	0.9957	9.7000e-004	0.0000	1.0198
Total	**0.2302**	**9.8800e-003**	**0.6120**	**5.0000e-005**		**3.6000e-003**	**3.6000e-003**		**3.6000e-003**	**3.6000e-003**	**0.0000**	**4.2715**	**4.2715**	**1.0300e-003**	**6.0000e-005**	**4.3151**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.2437	7.0400e-003	4.2200e-003	8.6777
Unmitigated	7.2437	7.0400e-003	4.2200e-003	8.6777

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.34263 / 3.36818	7.2437	7.0400e-003	4.2200e-003	8.6777
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.2437**	**7.0400e-003**	**4.2200e-003**	**8.6777**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.34263 / 3.36818	7.2437	7.0400e-003	4.2200e-003	8.6777
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.2437**	**7.0400e-003**	**4.2200e-003**	**8.6777**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.6568	0.4525	0.0000	18.9695
Unmitigated	7.6568	0.4525	0.0000	18.9695

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Apartments Mid Rise	37.72	7.6568	0.4525	0.0000	18.9695
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**7.6568**	**0.4525**	**0.0000**	**18.9695**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	37.72	7.6568	0.4525	0.0000	18.9695
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**7.6568**	**0.4525**	**0.0000**	**18.9695**

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

18-038 Page St Housing, San Jose - Santa Clara County, Annual

18-038 Page St Housing Existing, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	5.00	Dwelling Unit	0.31	7,500.00	14

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity = 290

Land Use - SF=7,500 Existing

Vehicle Trips - Low Rise Weekday = 7.32, Sat = 7.32*(7.16/6.59)=7.95 Sun = 7.32*(6.07/6.59)=6.74

Construction Phase - No Construction for Existing Use

Off-road Equipment - 0 Equip for Existing Use

Woodstoves - Wood Mass = 0, Wood # added to Gas #

Water And Wastewater - 100% Aerobic

Table Name	Column Name	Default Value	New Value

tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	0.75	1.60
tblFireplaces	NumberWood	0.85	0.00
tblGrading	AcresOfGrading	0.00	0.50
tblLandUse	LandUseSquareFeet	5,000.00	7,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	ST_TR	7.16	7.95
tblVehicleTrips	SU_TR	6.07	6.74
tblVehicleTrips	WD_TR	6.59	7.32
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0357	6.0000e-004	0.0373	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2604	0.2604	6.0000e-005	0.0000	0.2630
Energy	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	5.5815	5.5815	3.4000e-004	1.1000e-004	5.6225
Mobile	9.1600e-003	0.0383	0.1069	3.5000e-004	0.0315	3.0000e-004	0.0318	8.4200e-003	2.8000e-004	8.7100e-003	0.0000	32.1858	32.1858	1.1200e-003	0.0000	32.2139
Waste						0.0000	0.0000		0.0000	0.0000	0.4669	0.0000	0.4669	0.0276	0.0000	1.1567

Water						0.0000	0.0000		0.0000	0.0000	0.1153	0.3264	0.4417	4.3000e-004	2.6000e-004	0.5291
Total	**0.0452**	**0.0412**	**0.1452**	**3.6000e-004**	**0.0315**	**7.1000e-004**	**0.0322**	**8.4200e-003**	**6.9000e-004**	**9.1200e-003**	**0.5821**	**38.3541**	**38.9363**	**0.0295**	**3.7000e-004**	**39.7852**

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	0.0357	6.0000e-004	0.0373	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2604	0.2604	6.0000e-005	0.0000	0.2630
Energy	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	5.5815	5.5815	3.4000e-004	1.1000e-004	5.6225
Mobile	9.1600e-003	0.0383	0.1069	3.5000e-004	0.0315	3.0000e-004	0.0318	8.4200e-003	2.8000e-004	8.7100e-003	0.0000	32.1858	32.1858	1.1200e-003	0.0000	32.2139
Waste						0.0000	0.0000		0.0000	0.0000	0.4669	0.0000	0.4669	0.0276	0.0000	1.1567
Water						0.0000	0.0000		0.0000	0.0000	0.1153	0.3264	0.4417	4.3000e-004	2.6000e-004	0.5291
Total	**0.0452**	**0.0412**	**0.1452**	**3.6000e-004**	**0.0315**	**7.1000e-004**	**0.0322**	**8.4200e-003**	**6.9000e-004**	**9.1200e-003**	**0.5821**	**38.3541**	**38.9363**	**0.0295**	**3.7000e-004**	**39.7852**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.1600e-003	0.0383	0.1069	3.5000e-004	0.0315	3.0000e-004	0.0318	8.4200e-003	2.8000e-004	8.7100e-003	0.0000	32.1858	32.1858	1.1200e-003	0.0000	32.2139
Unmitigated	9.1600e-003	0.0383	0.1069	3.5000e-004	0.0315	3.0000e-004	0.0318	8.4200e-003	2.8000e-004	8.7100e-003	0.0000	32.1858	32.1858	1.1200e-003	0.0000	32.2139

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	36.60	39.75	33.70	84,614	84,614
Total	36.60	39.75	33.70	84,614	84,614

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 Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

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	2.8602	2.8602	2.9000e-004	6.0000e-005	2.8850
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.8602	2.8602	2.9000e-004	6.0000e-005	2.8850
NaturalGas Mitigated	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7213	2.7213	5.0000e-005	5.0000e-005	2.7374
NaturalGas Unmitigated	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7213	2.7213	5.0000e-005	5.0000e-005	2.7374

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 Low Rise	50994.3	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7213	2.7213	5.0000e-005	5.0000e-005	2.7374
Total		**2.7000e-004**	**2.3500e-003**	**1.0000e-003**	**1.0000e-005**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**2.7213**	**2.7213**	**5.0000e-005**	**5.0000e-005**	**2.7374**

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 Low Rise	50994.3	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7213	2.7213	5.0000e-005	5.0000e-005	2.7374

Total		**2.7000e-004**	**2.3500e-003**	**1.0000e-003**	**1.0000e-005**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**2.7213**	**2.7213**	**5.0000e-005**	**5.0000e-005**	**2.7374**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	21744	2.8602	2.9000e-004	6.0000e-005	2.8850
Total		**2.8602**	**2.9000e-004**	**6.0000e-005**	**2.8850**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	21744	2.8602	2.9000e-004	6.0000e-005	2.8850
Total		**2.8602**	**2.9000e-004**	**6.0000e-005**	**2.8850**

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	0.0357	6.0000e-004	0.0373	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2604	0.2604	6.0000e-005	0.0000	0.2630
Unmitigated	0.0357	6.0000e-004	0.0373	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2604	0.2604	6.0000e-005	0.0000	0.2630

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	5.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0293					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	1.7000e-004	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1997	0.1997	0.0000	0.0000	0.2009
Landscaping	1.1300e-003	4.3000e-004	0.0372	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0606	0.0606	6.0000e-005	0.0000	0.0621
Total	**0.0357**	**6.0000e-004**	**0.0373**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.2604**	**0.2604**	**6.0000e-005**	**0.0000**	**0.2630**

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	5.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0293					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	1.7000e-004	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1997	0.1997	0.0000	0.0000	0.2009
Landscaping	1.1300e-003	4.3000e-004	0.0372	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0606	0.0606	6.0000e-005	0.0000	0.0621
Total	**0.0357**	**6.0000e-004**	**0.0373**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.2604**	**0.2604**	**6.0000e-005**	**0.0000**	**0.2630**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4417	4.3000e-004	2.6000e-004	0.5291
Unmitigated	0.4417	4.3000e-004	2.6000e-004	0.5291

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	0.32577 / 0.205377	0.4417	4.3000e-004	2.6000e-004	0.5291
Total		**0.4417**	**4.3000e-004**	**2.6000e-004**	**0.5291**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	0.32577 / 0.205377	0.4417	4.3000e-004	2.6000e-004	0.5291
Total		**0.4417**	**4.3000e-004**	**2.6000e-004**	**0.5291**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.4669	0.0276	0.0000	1.1567
Unmitigated	0.4669	0.0276	0.0000	1.1567

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	2.3	0.4669	0.0276	0.0000	1.1567
Total		**0.4669**	**0.0276**	**0.0000**	**1.1567**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	2.3	0.4669	0.0276	0.0000	1.1567
Total		**0.4669**	**0.0276**	**0.0000**	**1.1567**

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

Table: Trip Generation Estimates

Land Use	ITE Code	Size	Daily		AM Peak Hour				PM Peak Hour			
			Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Multifamily Housing (Midrise)	221	82 units	5.44	446	0.36	8	22	30	0.44	22	14	36
Existing Multifamily Housing (Lowrise)	220	5 units	7.32	37	0.46	1	1	2	0.56	2	1	3
Net-Added Traffic				**409**		**7**	**21**	**28**		**20**	**13**	**33**

Source: ITE *Trip Generation Manual*, 10th Edition, 2017; Fehr & Peers, 2018.