

APPENDIX 4.2

**Air Pollutant and GHG Emissions Modeling and
Construction Cancer Risk Assessment and CalEEMod**

Memo

Date: August 28, 2018

To: Shabnam Barati, Ph.D.
Principal
Impact Sciences

From: James A. Reyff
Illingworth & Rodkin, Inc.

Re: UC Santa Cruz Student Housing West, Santa Cruz, CA

Subject: Air Pollutant and GHG Emissions Modeling and Construction Cancer Risk Assessment

I&R Job: 17-070

The proposed UC Santa Cruz Student Housing West (SHW) project is an approximately 3,000-student bed project, which is planned for completion by UC Santa Cruz by 2023. The SHW project is split into two sites: the Hagar Site where the project would construct approximately 140 units of housing for student families and a day-care center northeast of the intersection of Glen Coolidge Drive and Hagar Drive, and the Heller Site where the project would demolish existing buildings and construct approximately 2,932 student beds west of Heller Drive. The project would also construct utility corridors to provide water, storm water, and emergency wastewater service to the new sites.

This memo presents the results of air pollutant and greenhouse gas (GHG) emissions modeling using the California Emissions Estimator Model (CalEEMod Version 2016.3.2) and a cancer risk assessment of construction emissions predicted from the Hagar site. Note that the Hagar site is located near existing sensitive receptors. The Heller site is not located near sensitive receptors. Sensitive receptors are groups of people more affected by air pollution than others. The California Air Resources Board, or CARB, has identified the following persons who are most likely to be affected by air pollution: children under 14, 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, elementary schools, and parks. Sensitive receptors, which include residences are located near the project sites. For the Heller site, these are student residences that do not include small children or infants. The

Hagar site is near existing residences that are assumed to all include infants or small children. For typical construction cancer risk assessments, only infants are considered sensitive receptors because of the high sensitivity to cancer causing contaminants, or toxic air contaminants (TACs), whereas, children and adults are much less sensitive and the exposure periods are relatively short. As explained later in this memo, the cancer risk assessments assume a much greater sensitivity of infants to TACs and a higher breathing rate.

Construction and Operational Air Pollutant and GHG Emissions

Thresholds of Significance for Criteria Pollutants

Thresholds of significance are used to determine the significance of a project’s environmental effects. Per Section 15064.7 of the CEQA Guidelines, a threshold is an identifiable quantitative, qualitative or performance level of particular environmental effect, non-compliance with which means the effect will normally be determined to be significant and compliance with normally means the effect will be determined to be less than significant.

The following summarizes the Monterey Bay Air Resources District (MBARD) thresholds of significance for evaluating air quality impacts for permits, rulemaking, and plans. A proposed project will not have a significant air quality effect on the environment, if the following criteria are met.

MBARD Daily Construction Emissions Thresholds

Pollutant (pounds per day)	Significance Threshold
	Construction
ROG	137 (direct & indirect)
NO _x	137 (direct & indirect)
CO	550 (direct)
PM ₁₀	82 (on-site)
PM _{2.5}	55 (on-site)

MBARD Daily Operational Emission Thresholds

Pollutant (pounds per day)	Significance Threshold
	Operation
ROG	137 (direct & indirect)
NO _x	137 (direct & indirect)
CO	550 (direct)
PM ₁₀	82 (on-site)
PM _{2.5}	55 (on-site)

Construction Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the project assuming full build-out conditions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. Separate modeling was conducted for the Heller and Hagar sites. The Heller site modeling was divided into two modeling scenarios: Demolition and Construction. In addition, the Hagar site construction modeling was conducted for the residential and daycare portions separately.

The model predicts emissions of ozone precursor pollutants, reactive organic gases (ROG) and nitrogen oxides (NO_x), respirable particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}). In addition, the model predicts emissions of greenhouse gases. Particulate matter emissions (i.e., PM₁₀ and PM_{2.5}) are divided into fugitive and exhaust components. Construction activities, particularly during site preparation and grading would temporarily generate fugitive dust in the form of PM₁₀ 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.

Rather than relying on the CalEEMod default assumptions that are based on project size and type, project-specific construction information was used. The construction schedule and estimated equipment activity was provided for each of the construction projects. These were provided as follows:

- Estimated dates for Start and Finish
- Schedule in terms of weeks for each phase,
- Equipment activity for each phase in terms of
 - Equipment type
 - Quantity
- Equipment usage factor (%) per day by phase that was applied to daily hours of use

Construction activity for each project is described below.

Heller Site

For this portion of the project, the proposed project land uses input to CalEEMod included:

- 781 dwelling units to represent undergraduate housing,
- 220 dwelling units to represent graduate housing,
- 3,500 sf of “General Heavy Industry” to represent the wastewater treatment plant, and
- 200 spaces of “Parking Lot.”

CalEEMod provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. A construction build-out scenario, including equipment list and schedule, was provided and input to the model. The project was assumed to include 10,000 cubic yards (cy) of soil import/export during site grading and was entered into the model to reflect the number of haul trips anticipated.

Demolition of the Heller site would include the removal of 199 townhouses in 42 buildings. To estimate truck trips, each dwelling unit was estimated to be 1,200 sf (this includes amenity spaces). Demolition activity is assumed to occur for 4 months, beginning in 2020.

The construction schedule assumes that the Heller site development would be built out over a period of approximately 3 years, beginning in March 2020, or an estimated 845 construction workdays.

Hagar Site

For this portion of the project, the proposed project land uses input to CalEEMod included:

Residential Construction:

- 140 dwelling units to represent Family Housing Units,
- 158 spaces of “Parking Lot.”

Daycare Construction:

- 13,500 sf of “Day-Care Center”
- 50 spaces of “Parking Lot.”

As described previously, 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. The construction build-out scenario, including equipment list and schedule, was provided and input to the model. The project was assumed to include 17,000 cubic yards (cy) of soil import/export during site grading and was entered into the model to reflect the number of haul trips anticipated. Note that the project would include prefabricated construction, so the modeled activities are likely overestimated.

The most aggressive construction schedule assumes that the residential project would be built out over a period of approximately 14 months or 290 days, beginning in April 2019, while the day-care facility is constructed over a period of 10 months beginning in June 2019. In 2019, there would be an estimated 150 days of day-care facility construction and 195 days of residential construction. In 2020, there would be an estimated 65 days of day-care facility construction and 95 days of residential construction.

Project Construction Emissions

Table 1 presents the construction-period air pollutant emissions in tons per year and pounds per average day in each year. The number of construction days was estimated for each year, as shown in Table 1. While the construction period may be longer, the model assumes a more intensive schedule and that was used to compute daily emissions. The average emissions per day were computed by dividing total emissions from construction by the number of days that the model computed for each calendar year for each construction project.

Table 2 shows the maximum summer day emissions in pounds per day for each calendar year. These emissions are based on the maximum summer day output for each project. Note that for years with multiple project construction (i.e., 2019 and 2020), the emissions reported assume that

maximum summer day emissions occur on the same days for each construction site. Also, ROG emissions from architectural coatings are anticipated to occur throughout the architectural coating phases, estimated to be 36 weeks for the Hagar site and 12.5 weeks for the Heller site; therefore, the average daily emissions in Table 1 is a better prediction of those emissions.

Attachment 1 includes the CalEEMod modeling output.

Table 1. Project Construction Air Pollutant Emissions – Total Annual and Average Daily

Scenario	Year	ROG	NOx	CO	PM ₁₀ total	PM _{2.5} total
Emissions in Tons from CalEEMod output						
Hagar Daycare (150 days)	2019	0.17	1.27	0.97	0.10	0.06
Hagar Daycare (65 days)	2020	0.07	0.18	0.17	0.02	0.01
Hagar Residential (195 days)	2019	0.69	2.75	2.06	0.28	0.13
Hagar Residential (95 days)	2020	0.52	0.54	0.58	0.07	0.03
Heller Demolition (80 days)	2020	0.10	0.91	0.75	0.18	0.06
Heller Residential (135 days)	2020	0.60	4.98	4.98	0.68	0.32
Heller Residential (260 days)	2021	1.05	7.79	9.59	1.18	0.52
Heller Residential (260 days)	2022	0.97	7.09	9.19	1.14	0.48
Heller Residential (110 days)	2023	5.54	1.02	1.45	0.18	0.07
Emissions in Tons						
Total	2019	0.86	4.02	3.04	0.38	0.19
Total	2020	1.29	6.61	6.48	0.95	0.43
Total	2021	1.05	7.79	9.59	1.18	0.52
Total	2022	0.97	7.09	9.19	1.14	0.48
Total	2023	5.54	1.02	1.45	0.18	0.07
Emissions in Average pounds per day						
Average Daily	2019	9	45	34	4	2
Average Daily	2020	24	113	110	17	7
Average Daily	2021	8	60	74	9	4
Average Daily	2022	7	55	71	9	4
Average Daily	2023	101	19	26	3	1

Table 2. Project Construction Air Pollutant Emissions – Maximum Summer Day

Scenario	Year	ROG	NOx	CO	PM ₁₀ total	PM _{2.5} total
Emissions in Tons from CalEEMod output						
Hagar Daycare	2019	5.2	57.1	37.3	5.4	2.6
Hagar Daycare	2020	3.2	10.7	11.0	1.0	0.6
Hagar Residential	2019	11.6	73.6	40.2	6.5	3.0
Hagar Residential	2020	12.0	13.7	15.1	1.9	0.9
Heller Demolition*	2020	2.4	22.8	18.7	4.5	1.6
Heller Residential*	2020	14.6	175.7	98.9	22.3	11.7
Heller Residential	2021	8.1	59.2	74.4	9.3	4.0
Heller Residential	2022	7.4	54.1	71.6	9.0	3.8
Heller Residential	2023	172.2	48.6	69.0	8.7	3.5
Emissions in Pounds Per day						
Total	2019	17	131	78	12	6
Total	2020*	18	47	45	7	3
Total	2020**	15	176	99	22	12
Total	2021	8	59	74	9	4
Total	2022	7	54	72	9	4
Total	2023	172	49	69	9	4

* Assumes maximum Hagar construction and Heller demolition occur simultaneously

** Only Heller Residential construction, which would not overlap with Hagar construction or Heller Demolition

Operational Emissions

CalEEMod also provides estimates of operational emissions. The proposed project would not result in substantial daily emissions from the use of automobiles. This is because students living in the on-campus housing would walk, ride a bike or take a UCSC shuttle to travel between the project site and the classes. Furthermore, the project would provide limited parking as freshmen are not allowed to bring cars to the campus. In addition, the project would reduce daily trips compared to the no project scenario because students who would otherwise live off campus and make trips to the campus would instead live on campus. However, conservatively the project trip generation rate and travel characteristics were used. There is no student housing type of land use available in CalEEMod.

The project includes seven back-up generators at the Heller site that would be powered by natural gas. These vary in size (i.e., 30 kW to 400 kW) and location. Testing of these generators would occur for 15 minutes every 6 weeks or about 2 hours per generator per year. Although not specifically planned, it was assumed that all generators would be tested for 15 minutes on a summer day for the modeling. CalEEMod was used to compute the emissions associated with these generators.

Table 3 reports operational emissions from the project, including the overestimated mobile emissions.

Table 3. Project Operation Air Pollutant Emissions (with Mobile Sources) – Maximum Summer Day¹

Scenario	ROG	NOx	CO	PM₁₀ total	PM_{2.5} total
Emissions in lbs./day from CalEEMod					
Hagar Residential & Daycare	6.3	9.6	29.3	3.2	1.0
Heller Residential	26.3	12.3	100.7	4.9	2.0
Total	33	22	130	8	3

Construction Health Risk – Hagar Site

Project Construction

The proposed project would expose sensitive receptors to temporary emissions of TACs while construction activities at the Hagar construction site take place. Most on-site construction equipment would be diesel-powered. DPM that would be emitted from this equipment and trucks used during construction is a TAC that can cause increased cancer risk. DPM is designated as a toxic air contaminant by CARB for the cancer risk associated with long-term exposure. The closest sensitive receptors to the project site are residences south of the construction site, across Glen Coolidge Drive. Additional residences are at farther distances from the Hagar site. The primary concern for nearby sensitive receptors would be exposure to DPM emissions from diesel-powered construction equipment and diesel trucks associated with project construction activities. This evaluation models DPM emissions from project construction activities to obtain DPM concentrations at nearby sensitive receptors. These DPM concentrations are then used to predict cancer risk and non-cancer health hazards. Figure 1 shows the project site and sensitive receptor locations where potential health impacts were evaluated based on the air quality dispersion modeling analysis.

Cancer Risk Methodology

A health risk assessment for exposure to 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 CARB develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.¹ These guidelines incorporate substantial changes designed to provide for enhanced protection of infants and children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA’s recommended methods.² This health risk assessment used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. Current Monterey Bay Air Resources District (MBARD) regulations/guidelines (Rule 1000 – Permit Guidelines and Requirements for Sources

¹ OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

² CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

Emitting Toxic Air Contaminants) specify use of the most recent OEHHA guidelines when conducting health risk assessments. The new OEHHA guidelines and CARB recommended exposure parameters were used in this evaluation.

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

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), 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). For this evaluation, as recommended by CARB, the 95th percentile breathing rates are used for all age groups. Additionally, CARB and the MBARD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions.

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

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

Where:

CPF = Cancer potency factor (mg/kg-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)

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

Where:

C_{air} = concentration in air (µg/m³)

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 in Table 3.

Table 3. Health Risk Parameters Used for Cancer Risk Calculations

Parameter	Exposure Type	Infant		Child	Adult
	Age Range	3 rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day) ⁻¹		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	745	335
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14
Exposure Frequency (days/year)		350	350	350	350
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home		1.0	1.0	1.0	0.73

* 95th percentile breathing rates

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 MBARD significance threshold of a HI greater than 1.0 to determine whether a significant non-cancer health impact from a project would occur.³

Typically, for projects involving construction with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is DPM. For DPM, the chronic inhalation REL is 5 µg/m³.

On-Site Construction TAC Emissions

Construction period emissions were computed using the California Emissions Estimator Model, Version 2016.3.2 (CalEEMod) along with projected construction activity. The CalEEMod modeling for both the residential and daycare construction activity was described previously. For computing construction health risk impacts, construction vehicle travel within one mile of the site was included. The modeling was based on a construction period of over about 16 months starting in 2018. The CalEEMod model provided total annual PM₁₀ exhaust emissions (assumed to be DPM) for the off-road construction equipment used for construction of the project and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles) of 0.1466 tons (293 pounds) over the construction period. The on-road emissions are a result of on-road haul truck travel during demolition and grading activities and vendor deliveries during construction, with overall trip lengths of one mile to represent on- or near-site travel. Inputs to CalEEMod included the project type, size, acreage, construction schedule, and projected equipment usage. The construction schedule and equipment usage projections were provided and are included in *Attachment 2*.

³ MBUAPCD Rule 1000

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used with screening meteorology to predict concentrations of DPM at existing sensitive receptors in the vicinity of the project site. The AERMOD dispersion model is an OEHHA-recommended model for use in modeling health risk impacts. Exhaust emissions of DPM from construction equipment at the project site were modeled using an area source encompassing the different construction areas at the project site. An emission release height of six 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.

The AERMOD model requires the use of hourly meteorological data that are representative of conditions in the vicinity of the site area being modeled. For this evaluation, since site-specific meteorological data was not available, a screening meteorological data set designed to produce conservative air concentrations was used. The screening meteorological data was created for the AERMOD model with the U.S. EPA MAKEMET⁴ program, which is designed to find the meteorological conditions that result in the highest pollutant concentrations for the area.

For each receptor location, the AERMOD model calculates 1-hour maximum DPM concentrations using the screening meteorological data. A conversion factor of 0.1 is used to calculate maximum average annual concentrations from the 1-hour maximum concentrations. DPM concentrations were calculated at nearby sensitive receptors (off-site residences) using receptor heights of 1.5 meters (4.9 feet). The maximum-modeled DPM concentration occurred east of the construction area at a residence on Spring Street. The location of the maximum DPM concentration is identified on Figure 1.

Cancer Risk and Hazards

Increased cancer risks were calculated using the maximum modeled annual DPM concentrations and cancer risk assessment methods described previously. Due to the relatively short duration of project construction activities, only infant exposures were assumed in calculating the maximum cancer risk for residential exposures. Because an infant (0 to 2 years of age) breathing rate is greater than the breathing rate for the 3rd trimester the contribution to total cancer risk from an infant exposure is greater than if the initial exposure for the 3rd trimester is assumed. Infant exposures were assumed to occur at residential receptors throughout the entire construction period. In addition to infant exposures, adult exposures and increased cancer risks were calculated.

Results of this assessment indicate that the maximum increased residential cancer risk would be 59.7 in one million for an infant exposure. For adults, the increased cancer risk would be 1.3 in one million. The location of the receptor with the maximum increased cancer risk is shown in Figure 1. While the residential adult cancer risks are below the MBARD's threshold of greater than 10 in one million excess cancer cases, the increased cancer risk for a residential infant exposure is greater than the significance threshold and would be considered a *significant impact*.

⁴ <https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models>

Non-cancer hazards for DPM would be well below MBARD threshold at all locations, with the maximum chronic HI computed at less than 0.1. This HI is much lower than the MBARD significance threshold of greater than 1.0.

Attachment 2 to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

Recommended Mitigation Measures

Exhaust Emissions. Measures are required to reduce both NO_x and diesel particulate matter emissions from construction activity. This includes the following:

1. All diesel-powered off-road equipment larger than 25 horsepower and operating on the project construction sites for more than two days in a row shall meet, at a minimum, U.S. EPA standards for Tier 3 engines or equivalent.
2. All diesel-powered off-road equipment larger than 25 horsepower and operating on the project construction sites for more than two days in a row shall be equipped with diesel particulate matter filters that meet CARB-certified Level 3 Diesel Particulate Filters or alternatively-fueled equipment (i.e., non-diesel) would meet this requirement.
3. Signal boards shall be electrically powered.
4. Provide electrical line power so that diesel-fueled generator use at the Hagar site shall be limited to 100 hours total per construction project.
5. Ensure intensive construction activities at the Hagar and Heller sites do not overlap (note that current schedule indicates these would occur at separate times).

Architectural Coatings. The project shall use low volatile organic compound or VOC (i.e., ROG) coatings, that are below current MBARD requirements (i.e., Rule 426: Architectural Coatings), for at 50 percent of all residential interior paints. This includes all architectural coatings applied during construction. At least 50 percent of coatings applied to interior portions of the project must meet a “super-compliant” VOC standard of less than 10 grams of VOC per liter of paint.

Effects of Mitigation

Maximum summer day emissions and excess cancer risks from project construction were computed after applying the proposed mitigation. The results of the mitigated scenario emissions, reported in Table 4, are from the CalEEMod output for Mitigated Construction emissions and reflects the effectiveness in the construction emissions of the recommended measures listed above. The NO_x emissions would be reduced to a level below the threshold of significance. With mitigation, the computed maximum increased lifetime residential cancer risk from construction (using mitigated PM₁₀ exhaust emissions from CalEEMod) would be 7.7 in one million or less. The cancer risk prediction assumes infant exposure.

Table 4. Mitigated Project Construction Air Pollutant Emissions – Maximum Summer Day

Scenario	Year	ROG	NOx	CO	PM ₁₀ total	PM _{2.5} total
Emissions in Pounds Per day						
Hagar Daycare	2019	2.0	31.9	41.6	1.8	0.4
Hagar Daycare	2020	2.5	7.4	11.3	0.5	0.2
Hagar Residential	2019	10.9	48.5	44.5	2.8	0.8
Hagar Residential*	2020	11.2	10.3	14.9	1.5	0.5
Heller Demolition*	2020	0.9	16.8	19.0	1.3	0.4
Heller Residential**	2020	5.8	117.3	116.6	7.5	2.5
Heller Residential	2021	4.9	47.4	72.2	7.4	2.3
Heller Residential	2022	4.7	46.5	69.7	7.4	2.3
Heller Residential	2023	171.9	44.0	67.3	7.4	2.2
Emissions in Pounds Per day						
Total	2019	13	80	86	5	1
Total	2020*	15	35	45	3	1
Total	2020**	6	117	117	7	2
Total	2021	5	47	72	7	2
Total	2022	5	46	70	7	2
Total	2023	95	44	67	7	2

* Assumes maximum Hagar construction and Heller demolition occur simultaneously

** Only Heller Residential construction, which would not overlap with Hagar construction or Heller Demolition

GHG Emissions

GHG emissions for construction and operation are reported in Table 5. Table 6 breaks down the operational emissions for each site. These are the annual emissions reported as carbon dioxide equivalent or CO₂e in metric tons per year. Operational emissions are reflective of 2023 modeling conditions. Because the project is predicted to result in a net reduction of traffic generated by the school campus, operational emissions do not include mobile sources.

Table 5. Annual GHG Emissions (in metric tons)

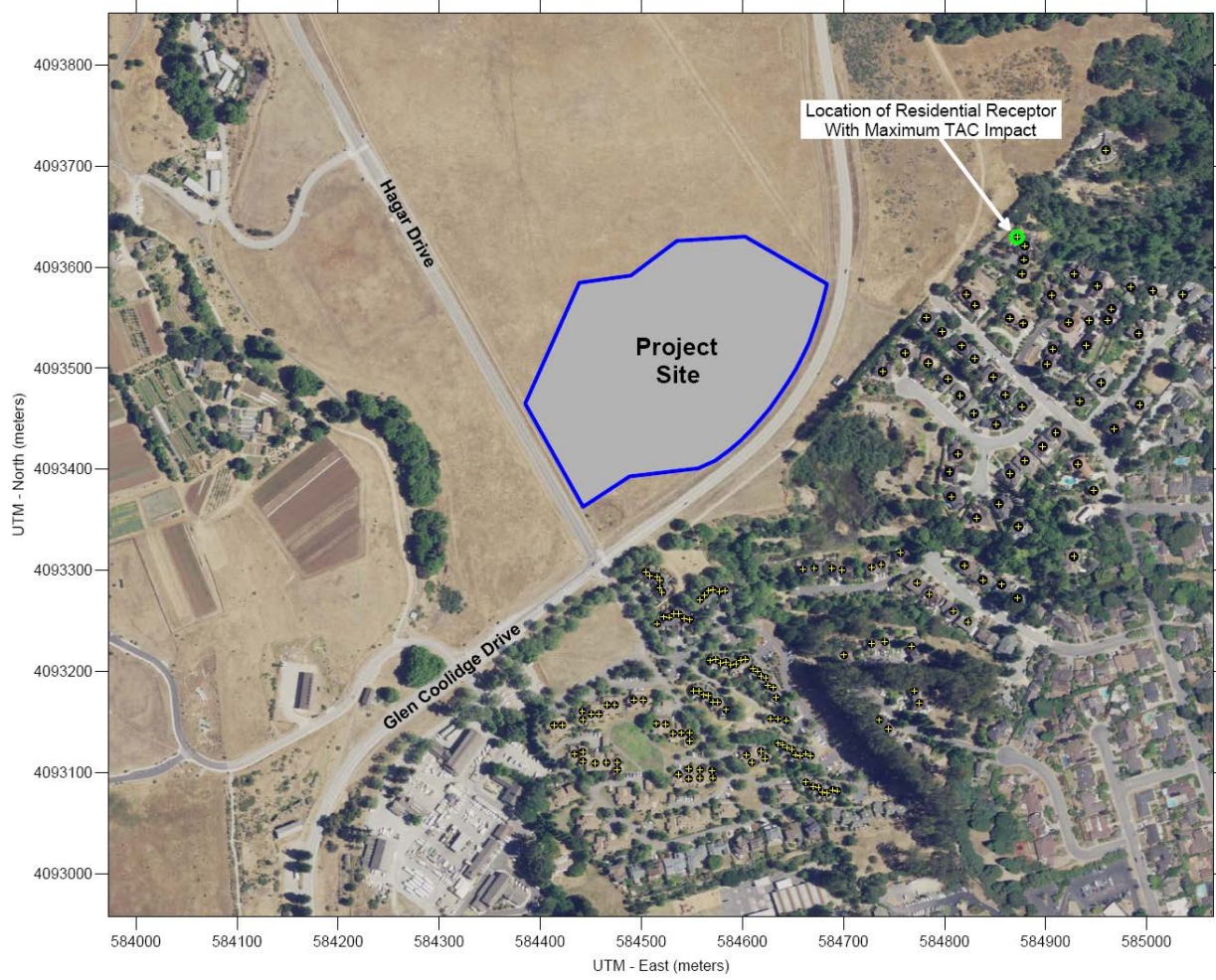
Scenario	Year	CO₂e	Combined
Emissions from CalEEMod in metric tons per year			
Hagar Daycare Construction	2019	169	
Hagar Residential Construction	2019	472	642
Hagar Daycare Construction	2020	29	
Hagar Residential Construction	2020	123	
Heller Demolition Construction	2020	161	
Heller Residential Construction	2020	1,046	1,358
Heller Residential Construction	2021	2,008	
Hagar Residential & Daycare Operation	2021	840	2,848
Heller Residential Construction	2022	1,972	
Hagar Residential & Daycare Operation	2022	840	2,812
Heller Residential Construction	2023	306	
Hagar Residential & Daycare Operation	2023	840	1,146
	Post 2023*		3,138

*Both Hagar and Heller sites operating and no construction.

Table 6. Annual Operational GHG Emissions (in metric tons)

Scenario	CO₂e
Emissions from CalEEMod in metric tons per year	
Hagar Site (Residential and Daycare)	
Area	2
Energy	160
Mobile	557
Waste	82
Water	9
Heller Site (Residential)	
Area	17
Energy	1,149
Mobile	825
Waste	234
Water	33
Total	3,088
Stationary Sources:	2

Figure 1. Project Construction Site, Sensitive Receptor Locations, and Location of Maximum TAC Impacts



UCSC Heller Demolition - Monterey Bay Unified APCD Air District, Annual

UCSC Heller Demolition
Monterey Bay Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	871.00	Dwelling Unit	13.00	871,000.00	2491

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 Rate
- Land Use - Applicant provided land uses for Construcion demolition
- Construction Phase - Demolition only - 4 months
- Off-road Equipment - Based on construcion equipment list
- Trips and VMT - Default trips
- Demolition - Assume 199 units @1200sf = 238,800sf
- Grading -
- Construction Off-road Equipment Mitigation - BMPs, Tier 3 DPF 3, Electric signal board & generator

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	80.00
tblLandUse	LotAcreage	22.92	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

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					
2020	0.0966	0.9147	0.7478	1.8100e-003	0.1385	0.0409	0.1794	0.0232	0.0394	0.0627	0.0000	160.5852	160.5852	0.0235	0.0000	161.1719
Maximum	0.0966	0.9147	0.7478	1.8100e-003	0.1385	0.0409	0.1794	0.0232	0.0394	0.0627	0.0000	160.5852	160.5852	0.0235	0.0000	161.1719

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					
2020	0.0343	0.6768	0.7590	1.8100e-003	0.0457	5.0200e-003	0.0507	9.1600e-003	4.9800e-003	0.0141	0.0000	145.2306	145.2306	0.0225	0.0000	145.7937
Maximum	0.0343	0.6768	0.7590	1.8100e-003	0.0457	5.0200e-003	0.0507	9.1600e-003	4.9800e-003	0.0141	0.0000	145.2306	145.2306	0.0225	0.0000	145.7937

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	64.52	26.01	-1.49	0.00	67.00	87.71	71.71	60.53	87.37	77.43	0.00	9.56	9.56	4.05	0.00	9.54

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2020	5-31-2020	0.8290	0.5825
2	6-1-2020	8-31-2020	0.1709	0.1200

		Highest	0.8290	0.5825
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3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2020	6/19/2020	5	80	4 month = 80 days

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	5	4.80	78	0.48
Demolition	Concrete/Industrial Saws	0	4.80	81	0.73
Demolition	Excavators	2	4.80	158	0.38
Demolition	Generator Sets	1	4.80	84	0.74
Demolition	Rubber Tired Dozers	0	4.80	247	0.40
Demolition	Rubber Tired Loaders	2	4.80	203	0.36
Demolition	Signal Boards	1	8.00	6	0.82
Demolition	Sweepers/Scrubbers	1	4.80	64	0.46

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	12	30.00	0.00	1,086.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					
Fugitive Dust					0.1198	0.0000	0.1198	0.0181	0.0000	0.0181	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0868	0.7506	0.6771	1.2700e-003		0.0401	0.0401		0.0388	0.0388	0.0000	109.6956	109.6956	0.0214	0.0000	110.2309
Total	0.0868	0.7506	0.6771	1.2700e-003	0.1198	0.0401	0.1599	0.0181	0.0388	0.0569	0.0000	109.6956	109.6956	0.0214	0.0000	110.2309

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	4.5200e-003	0.1593	0.0281	4.4000e-004	9.2300e-003	6.2000e-004	9.8500e-003	2.5400e-003	6.0000e-004	3.1300e-003	0.0000	42.0248	42.0248	1.6900e-003	0.0000	42.0670
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	5.2100e-003	4.7600e-003	0.0427	1.0000e-004	9.5500e-003	8.0000e-005	9.6300e-003	2.5400e-003	8.0000e-005	2.6100e-003	0.0000	8.8649	8.8649	3.7000e-004	0.0000	8.8741

Total	9.7300e-003	0.1641	0.0708	5.4000e-004	0.0188	7.0000e-004	0.0195	5.0800e-003	6.8000e-004	5.7400e-003	0.0000	50.8896	50.8896	2.0600e-003	0.0000	50.9411
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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					0.0270	0.0000	0.0270	4.0800e-003	0.0000	4.0800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0245	0.5127	0.6882	1.2700e-003		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003	0.0000	94.3410	94.3410	0.0205	0.0000	94.8526
Total	0.0245	0.5127	0.6882	1.2700e-003	0.0270	4.3100e-003	0.0313	4.0800e-003	4.3100e-003	8.3900e-003	0.0000	94.3410	94.3410	0.0205	0.0000	94.8526

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	4.5200e-003	0.1593	0.0281	4.4000e-004	9.2300e-003	6.2000e-004	9.8500e-003	2.5400e-003	6.0000e-004	3.1300e-003	0.0000	42.0248	42.0248	1.6900e-003	0.0000	42.0670
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	5.2100e-003	4.7600e-003	0.0427	1.0000e-004	9.5500e-003	8.0000e-005	9.6300e-003	2.5400e-003	8.0000e-005	2.6100e-003	0.0000	8.8649	8.8649	3.7000e-004	0.0000	8.8741
Total	9.7300e-003	0.1641	0.0708	5.4000e-004	0.0188	7.0000e-004	0.0195	5.0800e-003	6.8000e-004	5.7400e-003	0.0000	50.8896	50.8896	2.0600e-003	0.0000	50.9411

UCSC Heller Demolition - Monterey Bay Unified APCD Air District, Summer

UCSC Heller Demolition
Monterey Bay Unified APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	871.00	Dwelling Unit	13.00	871,000.00	2491

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2024
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 provided land uses for Construcion demolition
 Construction Phase - Demolition only - 4 months
 Off-road Equipment - Based on construcion equipment list
 Trips and VMT - Default trips
 Demolition - Assume 199 units @1200sf = 238,800sf
 Grading -
 Construction Off-road Equipment Mitigation - BMPs, Tier 3 DPF 3, Electric signal board & generator

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	80.00
tblLandUse	LotAcreage	22.92	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	2.4128	22.7785	18.7159	0.0454	3.4776	1.0210	4.4986	0.5838	0.9859	1.5697	0.0000	4,450.3894	4,450.3894	0.6455	0.0000	4,466.5257
Maximum	2.4128	22.7785	18.7159	0.0454	3.4776	1.0210	4.4986	0.5838	0.9859	1.5697	0.0000	4,450.3894	4,450.3894	0.6455	0.0000	4,466.5257

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	lb/day										lb/day					
2020	0.8556	16.8314	18.9950	0.0454	1.1573	0.1253	1.2826	0.2324	0.1244	0.3568	0.0000	4,027.2551	4,027.2551	0.6193	0.0000	4,042.7372
Maximum	0.8556	16.8314	18.9950	0.0454	1.1573	0.1253	1.2826	0.2324	0.1244	0.3568	0.0000	4,027.2551	4,027.2551	0.6193	0.0000	4,042.7372

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	64.54	26.11	-1.49	0.00	66.72	87.73	71.49	60.19	87.38	77.27	0.00	9.51	9.51	4.05	0.00	9.49

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2020	6/19/2020	5	80	4 month = 80 days

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	5	4.80	78	0.48
Demolition	Concrete/Industrial Saws	0	4.80	81	0.73
Demolition	Excavators	2	4.80	158	0.38
Demolition	Generator Sets	1	4.80	84	0.74
Demolition	Rubber Tired Dozers	0	4.80	247	0.40
Demolition	Rubber Tired Loaders	2	4.80	203	0.36
Demolition	Signal Boards	1	8.00	6	0.82
Demolition	Sweepers/Scrubbers	1	4.80	64	0.46

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	12	30.00	0.00	1,086.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					2.9939	0.0000	2.9939	0.4534	0.0000	0.4534			0.0000			0.0000
Off-Road	2.1704	18.7649	16.9263	0.0318		1.0035	1.0035		0.9693	0.9693		3,022.9663	3,022.9663	0.5901		3,037.7180
Total	2.1704	18.7649	16.9263	0.0318	2.9939	1.0035	3.9974	0.4534	0.9693	1.4227		3,022.9663	3,022.9663	0.5901		3,037.7180

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	lb/day										lb/day					
Hauling	0.1114	3.9094	0.6729	0.0111	0.2372	0.0154	0.2527	0.0650	0.0148	0.0798		1,168.6805	1,168.6805	0.0447		1,169.7982
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
Worker	0.1310	0.1042	1.1167	2.6000e-003	0.2464	2.0500e-003	0.2485	0.0654	1.8900e-003	0.0673		258.7426	258.7426	0.0107		259.0095
Total	0.2424	4.0135	1.7896	0.0137	0.4837	0.0175	0.5012	0.1304	0.0167	0.1470		1,427.4231	1,427.4231	0.0554		1,428.8077

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	lb/day										lb/day					
Fugitive Dust					0.6736	0.0000	0.6736	0.1020	0.0000	0.1020			0.0000			0.0000
Off-Road	0.6132	12.8179	17.2054	0.0318		0.1078	0.1078		0.1078	0.1078	0.0000	2,599.8321	2,599.8321	0.5639		2,613.9295
Total	0.6132	12.8179	17.2054	0.0318	0.6736	0.1078	0.7814	0.1020	0.1078	0.2098	0.0000	2,599.8321	2,599.8321	0.5639		2,613.9295

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	lb/day										lb/day					
Hauling	0.1114	3.9094	0.6729	0.0111	0.2372	0.0154	0.2527	0.0650	0.0148	0.0798		1,168.6805	1,168.6805	0.0447		1,169.7982
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
Worker	0.1310	0.1042	1.1167	2.6000e-003	0.2464	2.0500e-003	0.2485	0.0654	1.8900e-003	0.0673		258.7426	258.7426	0.0107		259.0095
Total	0.2424	4.0135	1.7896	0.0137	0.4837	0.0175	0.5012	0.1304	0.0167	0.1470		1,427.4231	1,427.4231	0.0554		1,428.8077

UCSC Heller Remaining Construction - Monterey Bay Unified APCD Air District, Annual

**UCSC Heller Remaining Construction
Monterey Bay Unified APCD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	3.50	1000sqft	0.08	3,500.00	0
Parking Lot	200.00	Space	1.80	80,000.00	0
Apartments Low Rise	220.00	Dwelling Unit	2.00	96,561.00	629
Apartments Mid Rise	781.00	Dwelling Unit	8.00	758,850.00	2234

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - Using PG&E 2020 rate
- Land Use - Based on project description. Wastewater added as Industrial use.
- Construction Phase - Based on durations provided and construction schedule
- Off-road Equipment - Based on equipment list
- Off-road Equipment - Based on equipment list
- Off-road Equipment - Based on equipment list

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	30.00	13.00
tblConstructionPhase	NumDays	300.00	660.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	63.00
tblConstructionPhase	PhaseEndDate	8/25/2020	7/31/2020
tblConstructionPhase	PhaseEndDate	10/19/2021	2/10/2023
tblConstructionPhase	PhaseEndDate	11/16/2021	3/3/2023
tblConstructionPhase	PhaseEndDate	12/14/2021	5/31/2023
tblConstructionPhase	PhaseStartDate	8/26/2020	8/1/2020
tblConstructionPhase	PhaseStartDate	10/20/2021	2/11/2023
tblConstructionPhase	PhaseStartDate	11/17/2021	3/4/2023
tblGrading	MaterialExported	0.00	10,000.00
tblLandUse	LandUseSquareFeet	220,000.00	96,561.00
tblLandUse	LandUseSquareFeet	781,000.00	758,850.00
tblLandUse	LotAcreage	13.75	2.00
tblLandUse	LotAcreage	20.55	8.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46

tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pressure Washers
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pressure Washers
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	UsageHours	6.00	1.20
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	241.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	40.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	536.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00

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					
2020	0.6012	4.9803	4.9805	0.0117	0.4858	0.1943	0.6802	0.1393	0.1847	0.3240	0.0000	1,042.1073	1,042.1073	0.1382	0.0000	1,045.5620
2021	1.0499	7.7870	9.5863	0.0224	0.8890	0.2919	1.1810	0.2388	0.2797	0.5185	0.0000	2,002.7626	2,002.7626	0.2203	0.0000	2,008.2700
2022	0.9657	7.0851	9.1916	0.0220	0.8856	0.2538	1.1394	0.2379	0.2433	0.4812	0.0000	1,966.4138	1,966.4138	0.2146	0.0000	1,971.7780

2023	5.5441	1.0241	1.4463	3.4300e-003	0.1423	0.0373	0.1796	0.0381	0.0355	0.0736	0.0000	304.9473	304.9473	0.0375	0.0000	305.8852
Maximum	5.5441	7.7870	9.5863	0.0224	0.8890	0.2919	1.1810	0.2388	0.2797	0.5185	0.0000	2,002.7626	2,002.7626	0.2203	0.0000	2,008.2700

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					
2020	0.3340	3.6084	4.9779	0.0117	0.4091	0.0288	0.4379	0.1117	0.0284	0.1401	0.0000	976.4603	976.4603	0.1339	0.0000	979.8086
2021	0.6447	6.2533	9.2953	0.0224	0.8890	0.0501	0.9391	0.2388	0.0493	0.2881	0.0000	1,861.3940	1,861.3940	0.2119	0.0000	1,866.6902
2022	0.6094	6.0954	8.9377	0.0220	0.8856	0.0489	0.9346	0.2379	0.0483	0.2861	0.0000	1,825.5868	1,825.5868	0.2066	0.0000	1,830.7509
2023	5.4904	0.9119	1.4392	3.4300e-003	0.1423	7.5400e-003	0.1498	0.0381	7.4500e-003	0.0456	0.0000	282.6857	282.6857	0.0363	0.0000	283.5941
Maximum	5.4904	6.2533	9.2953	0.0224	0.8890	0.0501	0.9391	0.2388	0.0493	0.2881	0.0000	1,861.3940	1,861.3940	0.2119	0.0000	1,866.6902

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	13.26	19.20	2.20	0.00	3.19	82.59	22.60	4.22	82.05	45.62	0.00	6.96	6.96	3.59	0.00	6.95

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2020	9-30-2020	3.0229	2.0792
2	10-1-2020	12-31-2020	2.4918	1.8223
3	1-1-2021	3-31-2021	2.1937	1.7161
4	4-1-2021	6-30-2021	2.1858	1.7029
5	7-1-2021	9-30-2021	2.2098	1.7216
6	10-1-2021	12-31-2021	2.2425	1.7543
7	1-1-2022	3-31-2022	2.0060	1.6732
8	4-1-2022	6-30-2022	1.9995	1.6630

9	7-1-2022	9-30-2022	2.0215	1.6813
10	10-1-2022	12-31-2022	2.0506	1.7104
11	1-1-2023	3-31-2023	2.7506	2.6112
12	4-1-2023	6-30-2023	3.8548	3.8305
		Highest	3.8548	3.8305

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	7/1/2020	7/14/2020	5	10	2 weeks
2	Grading	Grading	7/15/2020	7/31/2020	5	13	2.5 weeks
3	Building Construction	Building Construction	8/1/2020	2/10/2023	5	660	132 weeks
4	Paving	Paving	2/11/2023	3/3/2023	5	15	3 weeks
5	Architectural Coating	Architectural Coating	3/4/2023	5/31/2023	5	63	12.5 weeks

Acres of Grading (Site Preparation Phase): 17.5

Acres of Grading (Grading Phase): 59.15

Acres of Paving: 1.8

Residential Indoor: 1,732,207; Residential Outdoor: 577,402; Non-Residential Indoor: 5,250; Non-Residential Outdoor: 1,750; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Skid Steer Loaders	2	5.60	65	0.37
Paving	Sweepers/Scrubbers	1	5.60	64	0.46
Architectural Coating	Aerial Lifts	8	1.20	63	0.31
Architectural Coating	Cement and Mortar Mixers	6	1.20	9	0.56
Architectural Coating	Cranes	1	1.20	231	0.29
Architectural Coating	Generator Sets	2	1.20	84	0.74
Architectural Coating	Other Construction Equipment	2	1.20	172	0.42

Architectural Coating	Pressure Washers	1	1.20	13	0.30
Architectural Coating	Rough Terrain Forklifts	2	1.20	100	0.40
Site Preparation	Rubber Tired Dozers	0	5.60	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Grading	Excavators	4	5.60	158	0.38
Grading	Graders	3	5.60	187	0.41
Grading	Rubber Tired Dozers	2	5.60	247	0.40
Grading	Scrapers	3	5.60	367	0.48
Grading	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Building Construction	Cranes	3	3.20	231	0.29
Building Construction	Forklifts	2	3.20	89	0.20
Building Construction	Generator Sets	4	3.20	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	3.20	97	0.37
Building Construction	Welders	0	3.20	46	0.45
Paving	Pavers	1	5.60	130	0.42
Paving	Paving Equipment	1	5.60	132	0.36
Paving	Rollers	2	5.60	80	0.38
Architectural Coating	Air Compressors	2	1.20	78	0.48
Site Preparation	Crawler Tractors	2	5.60	212	0.43
Site Preparation	Excavators	2	5.60	158	0.38
Site Preparation	Generator Sets	1	5.60	84	0.74
Site Preparation	Graders	1	5.60	187	0.41
Site Preparation	Off-Highway Tractors	1	5.60	124	0.44
Site Preparation	Off-Highway Trucks	1	5.60	402	0.38
Site Preparation	Pumps	1	5.60	84	0.74
Site Preparation	Rubber Tired Loaders	1	5.60	203	0.36
Site Preparation	Scrapers	1	5.60	367	0.48
Site Preparation	Signal Boards	2	5.60	6	0.82
Site Preparation	Skid Steer Loaders	1	5.60	65	0.37
Site Preparation	Sweepers/Scrubbers	1	5.60	64	0.46

Grading	Crawler Tractors	4	5.60	212	0.43
Grading	Generator Sets	1	5.60	84	0.74
Grading	Off-Highway Tractors	2	5.60	124	0.44
Grading	Off-Highway Trucks	2	5.60	402	0.38
Grading	Plate Compactors	6	5.60	8	0.43
Grading	Pumps	2	5.60	84	0.74
Grading	Rollers	2	5.60	80	0.38
Grading	Rough Terrain Forklifts	1	5.60	100	0.40
Grading	Rubber Tired Loaders	3	5.60	203	0.36
Grading	Scrapers	3	5.60	367	0.48
Grading	Signal Boards	6	8.00	6	0.82
Grading	Skid Steer Loaders	2	5.60	65	0.37
Grading	Sweepers/Scrubbers	2	5.60	64	0.46
Building Construction	Aerial Lifts	12	3.20	63	0.31
Building Construction	Air Compressors	6	3.20	78	0.48
Building Construction	Concrete/Industrial Saws	4	3.20	81	0.73
Building Construction	Other Construction Equipment	6	3.20	172	0.42
Building Construction	Pressure Washers	1	3.20	13	0.30
Building Construction	Pumps	2	3.20	84	0.74
Building Construction	Rough Terrain Forklifts	4	3.20	100	0.40
Building Construction	Signal Boards	4	8.00	6	0.82
Building Construction	Skid Steer Loaders	2	3.20	65	0.37
Building Construction	Sweepers/Scrubbers	1	3.20	64	0.46
Paving	Graders	2	5.60	187	0.41
Paving	Plate Compactors	2	5.60	8	0.43
Paving	Rubber Tired Loaders	2	5.60	203	0.36
Paving	Signal Boards	2	8.00	6	0.82

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	15	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	48	120.00	0.00	1,250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	51	756.00	121.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	15	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	24	151.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					
Fugitive Dust					9.2800e-003	0.0000	9.2800e-003	1.0000e-003	0.0000	1.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0200	0.2186	0.1429	3.2000e-004		9.2100e-003	9.2100e-003		8.5900e-003	8.5900e-003	0.0000	27.8406	27.8406	7.8900e-003	0.0000	28.0378
Total	0.0200	0.2186	0.1429	3.2000e-004	9.2800e-003	9.2100e-003	0.0185	1.0000e-003	8.5900e-003	9.5900e-003	0.0000	27.8406	27.8406	7.8900e-003	0.0000	28.0378

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	8.2000e-004	7.5000e-004	6.7500e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4036	1.4036	6.0000e-005	0.0000	1.4051
Total	8.2000e-004	7.5000e-004	6.7500e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4036	1.4036	6.0000e-005	0.0000	1.4051

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					1.8800e-003	0.0000	1.8800e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0500e-003	0.1394	0.1725	3.2000e-004		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	25.5492	25.5492	7.7400e-003	0.0000	25.7428
Total	7.0500e-003	0.1394	0.1725	3.2000e-004	1.8800e-003	9.3000e-004	2.8100e-003	2.0000e-004	9.3000e-004	1.1300e-003	0.0000	25.5492	25.5492	7.7400e-003	0.0000	25.7428

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
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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
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	8.2000e-004	7.5000e-004	6.7500e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4036	1.4036	6.0000e-005	0.0000	1.4051
Total	8.2000e-004	7.5000e-004	6.7500e-003	2.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4036	1.4036	6.0000e-005	0.0000	1.4051

3.3 Grading - 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					
Fugitive Dust					0.0869	0.0000	0.0869	0.0336	0.0000	0.0336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0866	0.9593	0.5831	1.2800e-003		0.0401	0.0401		0.0372	0.0372	0.0000	111.2124	111.2124	0.0334	0.0000	112.0463
Total	0.0866	0.9593	0.5831	1.2800e-003	0.0869	0.0401	0.1271	0.0336	0.0372	0.0708	0.0000	111.2124	111.2124	0.0334	0.0000	112.0463

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.2100e-003	0.1834	0.0324	5.1000e-004	0.0106	7.2000e-004	0.0113	2.9200e-003	6.9000e-004	3.6100e-003	0.0000	48.3711	48.3711	1.9400e-003	0.0000	48.4197
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	3.3900e-003	3.0900e-003	0.0277	6.0000e-005	6.2100e-003	5.0000e-005	6.2600e-003	1.6500e-003	5.0000e-005	1.7000e-003	0.0000	5.7622	5.7622	2.4000e-004	0.0000	5.7682
Total	8.6000e-003	0.1864	0.0601	5.7000e-004	0.0168	7.7000e-004	0.0176	4.5700e-003	7.4000e-004	5.3100e-003	0.0000	54.1332	54.1332	2.1800e-003	0.0000	54.1878

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					0.0176	0.0000	0.0176	6.8100e-003	0.0000	6.8100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0294	0.5800	0.6976	1.2800e-003		3.7500e-003	3.7500e-003		3.7500e-003	3.7500e-003	0.0000	106.8958	106.8958	0.0330	0.0000	107.7216
Total	0.0294	0.5800	0.6976	1.2800e-003	0.0176	3.7500e-003	0.0214	6.8100e-003	3.7500e-003	0.0106	0.0000	106.8958	106.8958	0.0330	0.0000	107.7216

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.2100e-003	0.1834	0.0324	5.1000e-004	0.0106	7.2000e-004	0.0113	2.9200e-003	6.9000e-004	3.6100e-003	0.0000	48.3711	48.3711	1.9400e-003	0.0000	48.4197
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3900e-003	3.0900e-003	0.0277	6.0000e-005	6.2100e-003	5.0000e-005	6.2600e-003	1.6500e-003	5.0000e-005	1.7000e-003	0.0000	5.7622	5.7622	2.4000e-004	0.0000	5.7682
Total	8.6000e-003	0.1864	0.0601	5.7000e-004	0.0168	7.7000e-004	0.0176	4.5700e-003	7.4000e-004	5.3100e-003	0.0000	54.1332	54.1332	2.1800e-003	0.0000	54.1878

3.4 Building Construction - 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	0.2766	2.6269	2.5129	4.2200e-003		0.1368	0.1368		0.1311	0.1311	0.0000	362.9793	362.9793	0.0723	0.0000	364.7861
Total	0.2766	2.6269	2.5129	4.2200e-003		0.1368	0.1368		0.1311	0.1311	0.0000	362.9793	362.9793	0.0723	0.0000	364.7861

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	0.0298	0.8249	0.2105	1.8900e-003	0.0435	4.6400e-003	0.0481	0.0126	4.4400e-003	0.0170	0.0000	180.1634	180.1634	9.7400e-003	0.0000	180.4069
Worker	0.1789	0.1634	1.4643	3.3700e-003	0.3278	2.8200e-003	0.3306	0.0872	2.6000e-003	0.0898	0.0000	304.3749	304.3749	0.0127	0.0000	304.6921
Total	0.2086	0.9883	1.6749	5.2600e-003	0.3713	7.4600e-003	0.3787	0.0997	7.0400e-003	0.1068	0.0000	484.5382	484.5382	0.0224	0.0000	485.0990

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
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Category	tons/yr										MT/yr					
Off-Road	0.0795	1.7135	2.3661	4.2200e-003		0.0159	0.0159		0.0159	0.0159	0.0000	303.9402	303.9402	0.0685	0.0000	305.6524
Total	0.0795	1.7135	2.3661	4.2200e-003		0.0159	0.0159		0.0159	0.0159	0.0000	303.9402	303.9402	0.0685	0.0000	305.6524

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	0.0298	0.8249	0.2105	1.8900e-003	0.0435	4.6400e-003	0.0481	0.0126	4.4400e-003	0.0170	0.0000	180.1634	180.1634	9.7400e-003	0.0000	180.4069
Worker	0.1789	0.1634	1.4643	3.3700e-003	0.3278	2.8200e-003	0.3306	0.0872	2.6000e-003	0.0898	0.0000	304.3749	304.3749	0.0127	0.0000	304.6921
Total	0.2086	0.9883	1.6749	5.2600e-003	0.3713	7.4600e-003	0.3787	0.0997	7.0400e-003	0.1068	0.0000	484.5382	484.5382	0.0224	0.0000	485.0990

3.4 Building Construction - 2021

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	0.5956	5.6365	5.9566	0.0101		0.2799	0.2799		0.2685	0.2685	0.0000	869.0861	869.0861	0.1706	0.0000	873.3504
Total	0.5956	5.6365	5.9566	0.0101		0.2799	0.2799		0.2685	0.2685	0.0000	869.0861	869.0861	0.1706	0.0000	873.3504

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	0.0584	1.8011	0.4378	4.4900e-003	0.1041	5.4700e-003	0.1096	0.0301	5.2300e-003	0.0353	0.0000	427.6729	427.6729	0.0226	0.0000	428.2370
Worker	0.3960	0.3493	3.1919	7.8200e-003	0.7849	6.5400e-003	0.7914	0.2087	6.0300e-003	0.2147	0.0000	706.0036	706.0036	0.0272	0.0000	706.6826
Total	0.4544	2.1504	3.6297	0.0123	0.8890	0.0120	0.9010	0.2388	0.0113	0.2501	0.0000	1,133.6765	1,133.6765	0.0497	0.0000	1,134.9196

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	0.1904	4.1029	5.6656	0.0101		0.0381	0.0381		0.0381	0.0381	0.0000	727.7175	727.7175	0.1621	0.0000	731.7706
Total	0.1904	4.1029	5.6656	0.0101		0.0381	0.0381		0.0381	0.0381	0.0000	727.7175	727.7175	0.1621	0.0000	731.7706

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	0.0584	1.8011	0.4378	4.4900e-003	0.1041	5.4700e-003	0.1096	0.0301	5.2300e-003	0.0353	0.0000	427.6729	427.6729	0.0226	0.0000	428.2370
Worker	0.3960	0.3493	3.1919	7.8200e-003	0.7849	6.5400e-003	0.7914	0.2087	6.0300e-003	0.2147	0.0000	706.0036	706.0036	0.0272	0.0000	706.6826
Total	0.4544	2.1504	3.6297	0.0123	0.8890	0.0120	0.9010	0.2388	0.0113	0.2501	0.0000	1,133.6765	1,133.6765	0.0497	0.0000	1,134.9196

3.4 Building Construction - 2022

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	0.5459	5.0768	5.8977	0.0101		0.2428	0.2428		0.2330	0.2330	0.0000	865.7304	865.7304	0.1685	0.0000	869.9434
Total	0.5459	5.0768	5.8977	0.0101		0.2428	0.2428		0.2330	0.2330	0.0000	865.7304	865.7304	0.1685	0.0000	869.9434

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	0.0534	1.6967	0.3946	4.4300e-003	0.1038	4.7400e-003	0.1085	0.0300	4.5300e-003	0.0345	0.0000	422.1798	422.1798	0.0219	0.0000	422.7269
Worker	0.3664	0.3116	2.8992	7.5100e-003	0.7819	6.2900e-003	0.7882	0.2079	5.8000e-003	0.2137	0.0000	678.5036	678.5036	0.0242	0.0000	679.1077
Total	0.4198	2.0083	3.2938	0.0119	0.8856	0.0110	0.8967	0.2379	0.0103	0.2482	0.0000	1,100.6834	1,100.6834	0.0461	0.0000	1,101.8346

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	0.1896	4.0871	5.6439	0.0101		0.0379	0.0379		0.0379	0.0379	0.0000	724.9034	724.9034	0.1605	0.0000	728.9163
Total	0.1896	4.0871	5.6439	0.0101		0.0379	0.0379		0.0379	0.0379	0.0000	724.9034	724.9034	0.1605	0.0000	728.9163

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	0.0534	1.6967	0.3946	4.4300e-003	0.1038	4.7400e-003	0.1085	0.0300	4.5300e-003	0.0345	0.0000	422.1798	422.1798	0.0219	0.0000	422.7269
Worker	0.3664	0.3116	2.8992	7.5100e-003	0.7819	6.2900e-003	0.7882	0.2079	5.8000e-003	0.2137	0.0000	678.5036	678.5036	0.0242	0.0000	679.1077

Total	0.4198	2.0083	3.2938	0.0119	0.8856	0.0110	0.8967	0.2379	0.0103	0.2482	0.0000	1,100.6834	1,100.6834	0.0461	0.0000	1,101.8346
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3.4 Building Construction - 2023

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	0.0590	0.5414	0.6780	1.1600e-003		0.0248	0.0248		0.0238	0.0238	0.0000	99.8917	99.8917	0.0192	0.0000	100.3724
Total	0.0590	0.5414	0.6780	1.1600e-003		0.0248	0.0248		0.0238	0.0238	0.0000	99.8917	99.8917	0.0192	0.0000	100.3724

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	4.6300e-003	0.1611	0.0388	5.0000e-004	0.0120	2.3000e-004	0.0122	3.4600e-003	2.2000e-004	3.6800e-003	0.0000	47.8492	47.8492	1.9600e-003	0.0000	47.8981
Worker	0.0393	0.0322	0.3049	8.3000e-004	0.0902	7.0000e-004	0.0909	0.0240	6.5000e-004	0.0246	0.0000	75.3832	75.3832	2.4900e-003	0.0000	75.4454
Total	0.0440	0.1933	0.3438	1.3300e-003	0.1022	9.3000e-004	0.1031	0.0275	8.7000e-004	0.0283	0.0000	123.2324	123.2324	4.4500e-003	0.0000	123.3435

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	0.0219	0.4716	0.6512	1.1600e-003		4.3700e-003	4.3700e-003		4.3700e-003	4.3700e-003	0.0000	83.6424	83.6424	0.0184	0.0000	84.1012
Total	0.0219	0.4716	0.6512	1.1600e-003		4.3700e-003	4.3700e-003		4.3700e-003	4.3700e-003	0.0000	83.6424	83.6424	0.0184	0.0000	84.1012

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	4.6300e-003	0.1611	0.0388	5.0000e-004	0.0120	2.3000e-004	0.0122	3.4600e-003	2.2000e-004	3.6800e-003	0.0000	47.8492	47.8492	1.9600e-003	0.0000	47.8981
Worker	0.0393	0.0322	0.3049	8.3000e-004	0.0902	7.0000e-004	0.0909	0.0240	6.5000e-004	0.0246	0.0000	75.3832	75.3832	2.4900e-003	0.0000	75.4454
Total	0.0440	0.1933	0.3438	1.3300e-003	0.1022	9.3000e-004	0.1031	0.0275	8.7000e-004	0.0283	0.0000	123.2324	123.2324	4.4500e-003	0.0000	123.3435

3.5 Paving - 2023

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	0.0133	0.1379	0.1128	2.6000e-004		5.5000e-003	5.5000e-003		5.0900e-003	5.0900e-003	0.0000	22.4122	22.4122	7.0300e-003	0.0000	22.5879
Paving	2.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0157	0.1379	0.1128	2.6000e-004		5.5000e-003	5.5000e-003		5.0900e-003	5.0900e-003	0.0000	22.4122	22.4122	7.0300e-003	0.0000	22.5879

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	9.9000e-004	8.1000e-004	7.6600e-003	2.0000e-005	2.2700e-003	2.0000e-005	2.2900e-003	6.0000e-004	2.0000e-005	6.2000e-004	0.0000	1.8946	1.8946	6.0000e-005	0.0000	1.8961
Total	9.9000e-004	8.1000e-004	7.6600e-003	2.0000e-005	2.2700e-003	2.0000e-005	2.2900e-003	6.0000e-004	2.0000e-005	6.2000e-004	0.0000	1.8946	1.8946	6.0000e-005	0.0000	1.8961

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	6.0000e-003	0.1213	0.1544	2.6000e-004		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	21.7411	21.7411	6.9600e-003	0.0000	21.9151
Paving	2.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.3600e-003	0.1213	0.1544	2.6000e-004		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	21.7411	21.7411	6.9600e-003	0.0000	21.9151

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	9.9000e-004	8.1000e-004	7.6600e-003	2.0000e-005	2.2700e-003	2.0000e-005	2.2900e-003	6.0000e-004	2.0000e-005	6.2000e-004	0.0000	1.8946	1.8946	6.0000e-005	0.0000	1.8961
Total	9.9000e-004	8.1000e-004	7.6600e-003	2.0000e-005	2.2700e-003	2.0000e-005	2.2900e-003	6.0000e-004	2.0000e-005	6.2000e-004	0.0000	1.8946	1.8946	6.0000e-005	0.0000	1.8961

3.6 Architectural Coating - 2023

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	5.3935					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0144	0.1373	0.1762	3.0000e-004		5.7600e-003	5.7600e-003		5.5100e-003	5.5100e-003	0.0000	25.8975	25.8975	5.7100e-003	0.0000	26.0403
Total	5.4079	0.1373	0.1762	3.0000e-004		5.7600e-003	5.7600e-003		5.5100e-003	5.5100e-003	0.0000	25.8975	25.8975	5.7100e-003	0.0000	26.0403

Unmitigated Construction Off-Site

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	0.0165	0.0135	0.1279	3.5000e-004	0.0378	2.9000e-004	0.0381	0.0101	2.7000e-004	0.0103	0.0000	31.6191	31.6191	1.0400e-003	0.0000	31.6451
Total	0.0165	0.0135	0.1279	3.5000e-004	0.0378	2.9000e-004	0.0381	0.0101	2.7000e-004	0.0103	0.0000	31.6191	31.6191	1.0400e-003	0.0000	31.6451

UCSC Heller Remaining Construction - Monterey Bay Unified APCD Air District, Summer

**UCSC Heller Remaining Construction
Monterey Bay Unified APCD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	3.50	1000sqft	0.08	3,500.00	0
Parking Lot	200.00	Space	1.80	80,000.00	0
Apartments Low Rise	220.00	Dwelling Unit	2.00	96,561.00	629
Apartments Mid Rise	781.00	Dwelling Unit	8.00	758,850.00	2234

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - Using PG&E 2020 rate
- Land Use - Based on project description. Wastewater added as Industrial use.
- Construction Phase - Based on durations provided and construction schedule
- Off-road Equipment - Based on equipment list
- Off-road Equipment - Based on equipment list
- Off-road Equipment - Based on equipment list

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00

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tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	63.00
tblConstructionPhase	PhaseEndDate	8/25/2020	7/31/2020
tblConstructionPhase	PhaseEndDate	10/19/2021	2/10/2023
tblConstructionPhase	PhaseEndDate	11/16/2021	3/3/2023
tblConstructionPhase	PhaseEndDate	12/14/2021	5/31/2023
tblConstructionPhase	PhaseStartDate	8/26/2020	8/1/2020
tblConstructionPhase	PhaseStartDate	10/20/2021	2/11/2023
tblConstructionPhase	PhaseStartDate	11/17/2021	3/4/2023
tblGrading	MaterialExported	0.00	10,000.00
tblLandUse	LandUseSquareFeet	220,000.00	96,561.00
tblLandUse	LandUseSquareFeet	781,000.00	758,850.00
tblLandUse	LotAcreage	13.75	2.00
tblLandUse	LotAcreage	20.55	8.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
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tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46

tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.40	0.40
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tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pressure Washers
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
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tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
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tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
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tblOffRoadEquipment	UsageHours	8.00	5.60
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tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
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tblOffRoadEquipment	UsageHours	8.00	5.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	241.00
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tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	40.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	536.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
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tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	14.6387	175.6870	98.9419	0.2855	16.0414	6.2909	22.3323	5.8954	5.8359	11.7313	0.0000	28,173.0206	28,173.0206	6.0159	0.0000	28,323.4190
2021	8.0533	59.2021	74.4356	0.1757	7.0296	2.2361	9.2657	1.8831	2.1429	4.0260	0.0000	17,318.0474	17,318.0474	1.8633	0.0000	17,364.6295
2022	7.4350	54.0878	71.6425	0.1731	7.0296	1.9517	8.9813	1.8831	1.8707	3.7539	0.0000	17,062.4593	17,062.4593	1.8210	0.0000	17,107.9841

2023	172.2068	48.6308	69.0492	0.1702	7.0297	1.7147	8.7443	1.8831	1.6426	3.5257	0.0000	16,772.1688	16,772.1688	1.7424	0.0000	16,815.7292
Maximum	172.2068	175.6870	98.9419	0.2855	16.0414	6.2909	22.3323	5.8954	5.8359	11.7313	0.0000	28,173.0206	28,173.0206	6.0159	0.0000	28,323.4190

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	lb/day										lb/day					
2020	5.8397	117.3420	116.5611	0.2855	7.0295	0.6949	7.4570	1.8831	0.6895	2.4591	0.0000	27,441.0151	27,441.0151	5.9607	0.0000	27,590.0316
2021	4.9484	47.4497	72.2060	0.1757	7.0296	0.3829	7.4125	1.8831	0.3772	2.2603	0.0000	16,123.9379	16,123.9379	1.7919	0.0000	16,168.7363
2022	4.6946	46.4747	69.6898	0.1731	7.0296	0.3757	7.4053	1.8831	0.3704	2.2535	0.0000	15,868.3495	15,868.3495	1.7531	0.0000	15,912.1782
2023	171.9153	43.9803	67.2629	0.1702	7.0297	0.3540	7.3837	1.8831	0.3496	2.2328	0.0000	15,578.0593	15,578.0593	1.6781	0.0000	15,620.0114
Maximum	171.9153	117.3420	116.5611	0.2855	7.0297	0.6949	7.4570	1.8831	0.6895	2.4591	0.0000	27,441.0151	27,441.0151	5.9607	0.0000	27,590.0316

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	7.38	24.40	-3.71	0.00	24.27	85.18	39.87	34.75	84.45	60.04	0.00	5.44	5.44	2.26	0.00	5.43

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	7/1/2020	7/14/2020	5	10	2 weeks
2	Grading	Grading	7/15/2020	7/31/2020	5	13	2.5 weeks
3	Building Construction	Building Construction	8/1/2020	2/10/2023	5	660	132 weeks
4	Paving	Paving	2/11/2023	3/3/2023	5	15	3 weeks

5	Architectural Coating	Architectural Coating	3/4/2023	5/31/2023	5	63	12.5 weeks
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Acres of Grading (Site Preparation Phase): 17.5

Acres of Grading (Grading Phase): 59.15

Acres of Paving: 1.8

Residential Indoor: 1,732,207; Residential Outdoor: 577,402; Non-Residential Indoor: 5,250; Non-Residential Outdoor: 1,750; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Skid Steer Loaders	2	5.60	65	0.37
Paving	Sweepers/Scrubbers	1	5.60	64	0.46
Architectural Coating	Aerial Lifts	8	1.20	63	0.31
Architectural Coating	Cement and Mortar Mixers	6	1.20	9	0.56
Architectural Coating	Cranes	1	1.20	231	0.29
Architectural Coating	Generator Sets	2	1.20	84	0.74
Architectural Coating	Other Construction Equipment	2	1.20	172	0.42
Architectural Coating	Pressure Washers	1	1.20	13	0.30
Architectural Coating	Rough Terrain Forklifts	2	1.20	100	0.40
Site Preparation	Rubber Tired Dozers	0	5.60	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Grading	Excavators	4	5.60	158	0.38
Grading	Graders	3	5.60	187	0.41
Grading	Rubber Tired Dozers	2	5.60	247	0.40
Grading	Scrapers	3	5.60	367	0.48
Grading	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Building Construction	Cranes	3	3.20	231	0.29
Building Construction	Forklifts	2	3.20	89	0.20
Building Construction	Generator Sets	4	3.20	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	3.20	97	0.37
Building Construction	Welders	0	3.20	46	0.45

Paving	Pavers	1	5.60	130	0.42
Paving	Paving Equipment	1	5.60	132	0.36
Paving	Rollers	2	5.60	80	0.38
Architectural Coating	Air Compressors	2	1.20	78	0.48
Site Preparation	Crawler Tractors	2	5.60	212	0.43
Site Preparation	Excavators	2	5.60	158	0.38
Site Preparation	Generator Sets	1	5.60	84	0.74
Site Preparation	Graders	1	5.60	187	0.41
Site Preparation	Off-Highway Tractors	1	5.60	124	0.44
Site Preparation	Off-Highway Trucks	1	5.60	402	0.38
Site Preparation	Pumps	1	5.60	84	0.74
Site Preparation	Rubber Tired Loaders	1	5.60	203	0.36
Site Preparation	Scrapers	1	5.60	367	0.48
Site Preparation	Signal Boards	2	5.60	6	0.82
Site Preparation	Skid Steer Loaders	1	5.60	65	0.37
Site Preparation	Sweepers/Scrubbers	1	5.60	64	0.46
Grading	Crawler Tractors	4	5.60	212	0.43
Grading	Generator Sets	1	5.60	84	0.74
Grading	Off-Highway Tractors	2	5.60	124	0.44
Grading	Off-Highway Trucks	2	5.60	402	0.38
Grading	Plate Compactors	6	5.60	8	0.43
Grading	Pumps	2	5.60	84	0.74
Grading	Rollers	2	5.60	80	0.38
Grading	Rough Terrain Forklifts	1	5.60	100	0.40
Grading	Rubber Tired Loaders	3	5.60	203	0.36
Grading	Scrapers	3	5.60	367	0.48
Grading	Signal Boards	6	8.00	6	0.82
Grading	Skid Steer Loaders	2	5.60	65	0.37
Grading	Sweepers/Scrubbers	2	5.60	64	0.46
Building Construction	Aerial Lifts	12	3.20	63	0.31

Building Construction	Air Compressors	6	3.20	78	0.48
Building Construction	Concrete/Industrial Saws	4	3.20	81	0.73
Building Construction	Other Construction Equipment	6	3.20	172	0.42
Building Construction	Pressure Washers	1	3.20	13	0.30
Building Construction	Pumps	2	3.20	84	0.74
Building Construction	Rough Terrain Forklifts	4	3.20	100	0.40
Building Construction	Signal Boards	4	8.00	6	0.82
Building Construction	Skid Steer Loaders	2	3.20	65	0.37
Building Construction	Sweepers/Scrubbers	1	3.20	64	0.46
Paving	Graders	2	5.60	187	0.41
Paving	Plate Compactors	2	5.60	8	0.43
Paving	Rubber Tired Loaders	2	5.60	203	0.36
Paving	Signal Boards	2	8.00	6	0.82

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	15	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	48	120.00	0.00	1,250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	51	756.00	121.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	15	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	24	151.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					1.8559	0.0000	1.8559	0.2004	0.0000	0.2004			0.0000			0.0000
Off-Road	3.9924	43.7135	28.5717	0.0638		1.8420	1.8420		1.7188	1.7188		6,137.8094	6,137.8094	1.7385		6,181.2713
Total	3.9924	43.7135	28.5717	0.0638	1.8559	1.8420	3.6979	0.2004	1.7188	1.9192		6,137.8094	6,137.8094	1.7385		6,181.2713

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	lb/day										lb/day					
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
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
Worker	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787
Total	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787

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	lb/day										lb/day					
Fugitive Dust					0.3758	0.0000	0.3758	0.0406	0.0000	0.0406			0.0000			0.0000
Off-Road	1.4107	27.8711	34.5027	0.0638		0.1851	0.1851		0.1851	0.1851	0.0000	5,632.6462	5,632.6462	1.7068		5,675.3150
Total	1.4107	27.8711	34.5027	0.0638	0.3758	0.1851	0.5610	0.0406	0.1851	0.2257	0.0000	5,632.6462	5,632.6462	1.7068		5,675.3150

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	lb/day										lb/day					
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
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
Worker	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787
Total	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787

3.3 Grading - 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	lb/day										lb/day					

Fugitive Dust					13.3752	0.0000	13.3752	5.1734	0.0000	5.1734			0.0000			0.0000
Off-Road	13.3255	147.5798	89.7089	0.1967		6.1735	6.1735		5.7238	5.7238		18,860.1036	18,860.1036	5.6566		19,001.5173
Total	13.3255	147.5798	89.7089	0.1967	13.3752	6.1735	19.5487	5.1734	5.7238	10.8971		18,860.1036	18,860.1036	5.6566		19,001.5173

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	lb/day										lb/day					
Hauling	0.7890	27.6906	4.7662	0.0784	1.6804	0.1093	1.7897	0.4605	0.1046	0.5651		8,277.9467	8,277.9467	0.3167		8,285.8638
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
Worker	0.5241	0.4167	4.4668	0.0104	0.9858	8.2000e-003	0.9940	0.2615	7.5700e-003	0.2690		1,034.9703	1,034.9703	0.0427		1,036.0379
Total	1.3131	28.1073	9.2330	0.0888	2.6662	0.1175	2.7837	0.7220	0.1121	0.8341		9,312.9170	9,312.9170	0.3594		9,321.9017

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	lb/day										lb/day					
Fugitive Dust					2.7085	0.0000	2.7085	1.0476	0.0000	1.0476			0.0000			0.0000
Off-Road	4.5265	89.2348	107.3281	0.1967		0.5774	0.5774		0.5774	0.5774	0.0000	18,128.0981	18,128.0981	5.6013		18,268.1300
Total	4.5265	89.2348	107.3281	0.1967	2.7085	0.5774	3.2859	1.0476	0.5774	1.6250	0.0000	18,128.0981	18,128.0981	5.6013		18,268.1300

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	lb/day										lb/day					
Hauling	0.7890	27.6906	4.7662	0.0784	1.6804	0.1093	1.7897	0.4605	0.1046	0.5651		8,277.9467	8,277.9467	0.3167		8,285.8638
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
Worker	0.5241	0.4167	4.4668	0.0104	0.9858	8.2000e-003	0.9940	0.2615	7.5700e-003	0.2690		1,034.9703	1,034.9703	0.0427		1,036.0379
Total	1.3131	28.1073	9.2330	0.0888	2.6662	0.1175	2.7837	0.7220	0.1121	0.8341		9,312.9170	9,312.9170	0.3594		9,321.9017

3.4 Building Construction - 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	lb/day										lb/day					
Off-Road	5.0755	48.2007	46.1075	0.0774		2.5095	2.5095		2.4059	2.4059		7,341.5804	7,341.5804	1.4618		7,378.1257
Total	5.0755	48.2007	46.1075	0.0774		2.5095	2.5095		2.4059	2.4059		7,341.5804	7,341.5804	1.4618		7,378.1257

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	lb/day										lb/day					
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
Vendor	0.5332	14.9610	3.6044	0.0352	0.8192	0.0842	0.9033	0.2358	0.0805	0.3163		3,692.4066	3,692.4066	0.1881		3,697.1101
Worker	3.3020	2.6249	28.1409	0.0655	6.2104	0.0517	6.2620	1.6473	0.0477	1.6950		6,520.3131	6,520.3131	0.2690		6,527.0388
Total	3.8352	17.5859	31.7453	0.1007	7.0295	0.1358	7.1654	1.8831	0.1282	2.0113		10,212.7196	10,212.7196	0.4572		10,224.1488

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	lb/day										lb/day					
Off-Road	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,147.4709	6,147.4709	1.3852		6,182.1010
Total	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,147.4709	6,147.4709	1.3852		6,182.1010

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	lb/day										lb/day					
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

Vendor	0.5332	14.9610	3.6044	0.0352	0.8192	0.0842	0.9033	0.2358	0.0805	0.3163		3,692.4066	3,692.4066	0.1881		3,697.1101
Worker	3.3020	2.6249	28.1409	0.0655	6.2104	0.0517	6.2620	1.6473	0.0477	1.6950		6,520.3131	6,520.3131	0.2690		6,527.0388
Total	3.8352	17.5859	31.7453	0.1007	7.0295	0.1358	7.1654	1.8831	0.1282	2.0113		10,212.7196	10,212.7196	0.4572		10,224.1488

3.4 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	4.5636	43.1919	45.6442	0.0774		2.1449	2.1449		2.0573	2.0573		7,341.0228	7,341.0228	1.4408		7,377.0423
Total	4.5636	43.1919	45.6442	0.0774		2.1449	2.1449		2.0573	2.0573		7,341.0228	7,341.0228	1.4408		7,377.0423

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	lb/day										lb/day					
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
Vendor	0.4353	13.6665	3.1165	0.0349	0.8192	0.0411	0.8603	0.2358	0.0393	0.2751		3,660.8280	3,660.8280	0.1816		3,665.3690
Worker	3.0544	2.3437	25.6749	0.0635	6.2104	0.0501	6.2605	1.6473	0.0462	1.6935		6,316.1966	6,316.1966	0.2409		6,322.2182
Total	3.4897	16.0102	28.7914	0.0983	7.0296	0.0912	7.1208	1.8831	0.0855	1.9687		9,977.0246	9,977.0246	0.4225		9,987.5872

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	lb/day										lb/day					
Off-Road	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,146.9133	6,146.9133	1.3694		6,181.1491
Total	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,146.9133	6,146.9133	1.3694		6,181.1491

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	lb/day										lb/day					
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
Vendor	0.4353	13.6665	3.1165	0.0349	0.8192	0.0411	0.8603	0.2358	0.0393	0.2751		3,660.8280	3,660.8280	0.1816		3,665.3690
Worker	3.0544	2.3437	25.6749	0.0635	6.2104	0.0501	6.2605	1.6473	0.0462	1.6935		6,316.1966	6,316.1966	0.2409		6,322.2182
Total	3.4897	16.0102	28.7914	0.0983	7.0296	0.0912	7.1208	1.8831	0.0855	1.9687		9,977.0246	9,977.0246	0.4225		9,987.5872

3.4 Building Construction - 2022

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	lb/day										lb/day					
Off-Road	4.1990	39.0525	45.3672	0.0774		1.8676	1.8676		1.7920	1.7920		7,340.8034	7,340.8034	1.4289		7,376.5263
Total	4.1990	39.0525	45.3672	0.0774		1.8676	1.8676		1.7920	1.7920		7,340.8034	7,340.8034	1.4289		7,376.5263

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	lb/day										lb/day					
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
Vendor	0.3996	12.9363	2.8149	0.0346	0.8193	0.0357	0.8550	0.2359	0.0341	0.2700		3,628.1069	3,628.1069	0.1767		3,632.5239
Worker	2.8364	2.0989	23.4604	0.0612	6.2104	0.0484	6.2587	1.6473	0.0446	1.6919		6,093.5490	6,093.5490	0.2154		6,098.9339
Total	3.2359	15.0352	26.2753	0.0958	7.0296	0.0841	7.1137	1.8831	0.0787	1.9619		9,721.6559	9,721.6559	0.3921		9,731.4578

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	lb/day										lb/day					
Off-Road	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,146.6936	6,146.6936	1.3611		6,180.7205

Total	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,146.6936	6,146.6936	1.3611		6,180.7205
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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	lb/day										lb/day					
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
Vendor	0.3996	12.9363	2.8149	0.0346	0.8193	0.0357	0.8550	0.2359	0.0341	0.2700		3,628.1069	3,628.1069	0.1767		3,632.5239
Worker	2.8364	2.0989	23.4604	0.0612	6.2104	0.0484	6.2587	1.6473	0.0446	1.6919		6,093.5490	6,093.5490	0.2154		6,098.9339
Total	3.2359	15.0352	26.2753	0.0958	7.0296	0.0841	7.1137	1.8831	0.0787	1.9619		9,721.6559	9,721.6559	0.3921		9,731.4578

3.4 Building Construction - 2023

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	lb/day										lb/day					
Off-Road	3.9363	36.0900	45.2008	0.0774		1.6523	1.6523		1.5846	1.5846		7,340.7807	7,340.7807	1.4130		7,376.1052
Total	3.9363	36.0900	45.2008	0.0774		1.6523	1.6523		1.5846	1.5846		7,340.7807	7,340.7807	1.4130		7,376.1052

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	lb/day										lb/day					
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
Vendor	0.2999	10.6595	2.4145	0.0339	0.8193	0.0155	0.8348	0.2359	0.0148	0.2506		3,563.9882	3,563.9882	0.1370		3,567.4128
Worker	2.6372	1.8813	21.4339	0.0589	6.2104	0.0469	6.2572	1.6473	0.0432	1.6905		5,867.3999	5,867.3999	0.1925		5,872.2112
Total	2.9371	12.5408	23.8484	0.0928	7.0297	0.0623	7.0920	1.8831	0.0580	1.9411		9,431.3881	9,431.3881	0.3294		9,439.6240

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	lb/day										lb/day					
Off-Road	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,146.6712	6,146.6712	1.3487		6,180.3874
Total	1.4586	31.4395	43.4145	0.0774		0.2917	0.2917		0.2917	0.2917	0.0000	6,146.6712	6,146.6712	1.3487		6,180.3874

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
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Category	lb/day										lb/day				
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
Vendor	0.2999	10.6595	2.4145	0.0339	0.8193	0.0155	0.8348	0.2359	0.0148	0.2506	3,563.9882	3,563.9882	0.1370		3,567.4128
Worker	2.6372	1.8813	21.4339	0.0589	6.2104	0.0469	6.2572	1.6473	0.0432	1.6905	5,867.3999	5,867.3999	0.1925		5,872.2112
Total	2.9371	12.5408	23.8484	0.0928	7.0297	0.0623	7.0920	1.8831	0.0580	1.9411	9,431.3881	9,431.3881	0.3294		9,439.6240

3.5 Paving - 2023

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	lb/day										lb/day					
Off-Road	1.7726	18.3819	15.0460	0.0346		0.7339	0.7339		0.6785	0.6785	3,294.0230	3,294.0230	1.0331			3,319.8504
Paving	0.3144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0870	18.3819	15.0460	0.0346		0.7339	0.7339		0.6785	0.6785	3,294.0230	3,294.0230	1.0331			3,319.8504

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	lb/day										lb/day					
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
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

Worker	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641
Total	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641

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	lb/day										lb/day					
Off-Road	0.7996	16.1740	20.5840	0.0346		0.1191	0.1191		0.1191	0.1191	0.0000	3,195.3959	3,195.3959	1.0229		3,220.9673
Paving	0.3144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1140	16.1740	20.5840	0.0346		0.1191	0.1191		0.1191	0.1191	0.0000	3,195.3959	3,195.3959	1.0229		3,220.9673

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	lb/day										lb/day					
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
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
Worker	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641
Total	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641

3.6 Architectural Coating - 2023

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	lb/day										lb/day					
Archit. Coating	171.2235					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4566	4.3588	5.5924	9.6200e-003		0.1830	0.1830		0.1749	0.1749		906.2567	906.2567	0.1999		911.2539
Total	171.6801	4.3588	5.5924	9.6200e-003		0.1830	0.1830		0.1749	0.1749		906.2567	906.2567	0.1999		911.2539

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	lb/day										lb/day					
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
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
Worker	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887
Total	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887

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
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Category	lb/day								lb/day						
Archit. Coating	171.2235					0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Off-Road	0.1651	3.5371	4.8970	9.6200e-003		0.0323	0.0323		0.0323	0.0323	0.0000	719.3464	719.3464	0.1917	724.1379
Total	171.3886	3.5371	4.8970	9.6200e-003		0.0323	0.0323		0.0323	0.0323	0.0000	719.3464	719.3464	0.1917	724.1379

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	lb/day										lb/day					
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
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
Worker	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887
Total	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887

UCSC Heller Remaining Construction - Monterey Bay Unified APCD Air District, Summer

**UCSC Heller Remaining Construction ROG
Monterey Bay Unified APCD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	3.50	1000sqft	0.08	3,500.00	0
Parking Lot	200.00	Space	1.80	80,000.00	0
Apartments Low Rise	220.00	Dwelling Unit	2.00	96,561.00	629
Apartments Mid Rise	781.00	Dwelling Unit	8.00	758,850.00	2234

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - Using PG&E 2020 rate
- Land Use - Based on project description. Wastewater added as Industrial use.
- Construction Phase - Based on durations provided and construction schedule
- Off-road Equipment - Based on equipment list
- Off-road Equipment - Based on equipment list
- Off-road Equipment - Based on equipment list

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	20.00	63.00
tblConstructionPhase	NumDays	300.00	660.00
tblConstructionPhase	NumDays	30.00	13.00
tblConstructionPhase	NumDays	20.00	15.00
tblGrading	MaterialExported	0.00	10,000.00
tblLandUse	LandUseSquareFeet	220,000.00	96,561.00
tblLandUse	LandUseSquareFeet	781,000.00	758,850.00
tblLandUse	LotAcreage	13.75	2.00
tblLandUse	LotAcreage	20.55	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	1.20
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
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tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
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tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	241.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	40.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	536.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00

tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
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tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG															
Year	lb/day										lb/day					
2020	14.6387															
2021	8.0645															
2022	7.4449															
2023	95.3833															
Maximum	95.3833															

Mitigated Construction

	ROG															
Year	lb/day										lb/day					

2020	5.8397															
2021	4.9521															
2022	4.6983															
2023	95.0910															
Maximum	95.0910															

	ROG															
Percent Reduction	11.91															

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	7/1/2020	7/14/2020	5	10	2 weeks
2	Grading	Grading	7/15/2020	7/31/2020	5	13	2.5 weeks
3	Building Construction	Building Construction	8/1/2020	2/10/2023	5	660	132 weeks
4	Paving	Paving	2/11/2023	3/3/2023	5	15	3 weeks
5	Architectural Coating	Architectural Coating	3/4/2023	5/31/2023	5	63	12.5 weeks

Acres of Grading (Site Preparation Phase): 17.5

Acres of Grading (Grading Phase): 59.15

Acres of Paving: 1.8

Residential Indoor: 1,732,207; Residential Outdoor: 577,402; Non-Residential Indoor: 5,250; Non-Residential Outdoor: 1,750; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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Site Preparation	Crawler Tractors	2	5.60	212	0.43
Site Preparation	Excavators	2	5.60	158	0.38
Site Preparation	Generator Sets	1	5.60	84	0.74
Site Preparation	Graders	1	5.60	187	0.41
Site Preparation	Off-Highway Tractors	1	5.60	124	0.44
Site Preparation	Off-Highway Trucks	1	5.60	402	0.38
Site Preparation	Pumps	1	5.60	84	0.74
Site Preparation	Rubber Tired Dozers	0	5.60	247	0.40
Site Preparation	Rubber Tired Loaders	1	5.60	203	0.36
Site Preparation	Scrapers	1	5.60	367	0.48
Site Preparation	Signal Boards	2	5.60	6	0.82
Site Preparation	Skid Steer Loaders	1	5.60	65	0.37
Site Preparation	Sweepers/Scrubbers	1	5.60	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Grading	Crawler Tractors	4	5.60	212	0.43
Grading	Excavators	4	5.60	158	0.38
Grading	Generator Sets	1	5.60	84	0.74
Grading	Graders	3	5.60	187	0.41
Grading	Off-Highway Tractors	2	5.60	124	0.44
Grading	Off-Highway Trucks	2	5.60	402	0.38
Grading	Plate Compactors	6	5.60	8	0.43
Grading	Pumps	2	5.60	84	0.74
Grading	Rollers	2	5.60	80	0.38
Grading	Rough Terrain Forklifts	1	5.60	100	0.40
Grading	Rubber Tired Dozers	2	5.60	247	0.40
Grading	Rubber Tired Loaders	3	5.60	203	0.36
Grading	Scrapers	3	5.60	367	0.48
Grading	Scrapers	3	5.60	367	0.48
Grading	Signal Boards	6	8.00	6	0.82
Grading	Skid Steer Loaders	2	5.60	65	0.37

Grading	Sweepers/Scrubbers	2	5.60	64	0.46
Grading	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Building Construction	Aerial Lifts	12	3.20	63	0.31
Building Construction	Air Compressors	6	3.20	78	0.48
Building Construction	Concrete/Industrial Saws	4	3.20	81	0.73
Building Construction	Cranes	3	3.20	231	0.29
Building Construction	Forklifts	2	3.20	89	0.20
Building Construction	Generator Sets	4	3.20	84	0.74
Building Construction	Other Construction Equipment	6	3.20	172	0.42
Building Construction	Pressure Washers	1	3.20	13	0.30
Building Construction	Pumps	2	3.20	84	0.74
Building Construction	Rough Terrain Forklifts	4	3.20	100	0.40
Building Construction	Signal Boards	4	8.00	6	0.82
Building Construction	Skid Steer Loaders	2	3.20	65	0.37
Building Construction	Sweepers/Scrubbers	1	3.20	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	3.20	97	0.37
Building Construction	Welders	0	3.20	46	0.45
Paving	Graders	2	5.60	187	0.41
Paving	Pavers	1	5.60	130	0.42
Paving	Paving Equipment	1	5.60	132	0.36
Paving	Plate Compactors	2	5.60	8	0.43
Paving	Rollers	2	5.60	80	0.38
Paving	Rubber Tired Loaders	2	5.60	203	0.36
Paving	Signal Boards	2	8.00	6	0.82
Paving	Skid Steer Loaders	2	5.60	65	0.37
Paving	Sweepers/Scrubbers	1	5.60	64	0.46
Architectural Coating	Aerial Lifts	8	1.20	63	0.31
Architectural Coating	Air Compressors	2	1.20	78	0.48
Architectural Coating	Cement and Mortar Mixers	6	1.20	9	0.56
Architectural Coating	Cranes	1	1.20	231	0.29

Architectural Coating	Generator Sets	2	1.20	84	0.74
Architectural Coating	Other Construction Equipment	2	1.20	172	0.42
Architectural Coating	Pressure Washers	1	1.20	13	0.30
Architectural Coating	Rough Terrain Forklifts	2	1.20	100	0.40

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	15	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	48	120.00	0.00	1,250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	51	756.00	121.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	15	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	24	151.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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	lb/day										lb/day					

Fugitive Dust					1.8559	0.0000	1.8559	0.2004	0.0000	0.2004			0.0000			0.0000
Off-Road	3.9908	43.6995	28.5569	0.0638		1.8421	1.8421		1.7189	1.7189		6,132.4524	6,132.4524	1.7368		6,175.8710
Total	3.9908	43.6995	28.5569	0.0638	1.8559	1.8421	3.6980	0.2004	1.7189	1.9193		6,132.4524	6,132.4524	1.7368		6,175.8710

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	lb/day										lb/day					
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
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
Worker	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787
Total	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787

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	lb/day										lb/day					
Fugitive Dust					0.3758	0.0000	0.3758	0.0406	0.0000	0.0406			0.0000			0.0000
Off-Road	1.4093	27.8467	34.4777	0.0638		0.1851	0.1851		0.1851	0.1851	0.0000	5,627.2892	5,627.2892	1.7050		5,669.9147
Total	1.4093	27.8467	34.4777	0.0638	0.3758	0.1851	0.5609	0.0406	0.1851	0.2256	0.0000	5,627.2892	5,627.2892	1.7050		5,669.9147

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	lb/day										lb/day					
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
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
Worker	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787
Total	0.1660	0.1319	1.4145	3.2900e-003	0.3122	2.6000e-003	0.3148	0.0828	2.4000e-003	0.0852		327.7406	327.7406	0.0135		328.0787

3.3 Grading - 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	lb/day										lb/day					
Fugitive Dust					13.3752	0.0000	13.3752	5.1734	0.0000	5.1734			0.0000			0.0000
Off-Road	13.3255	147.5798	89.7089	0.1967		6.1735	6.1735		5.7238	5.7238		18,860.1036	18,860.1036	5.6566		19,001.5173
Total	13.3255	147.5798	89.7089	0.1967	13.3752	6.1735	19.5487	5.1734	5.7238	10.8971		18,860.1036	18,860.1036	5.6566		19,001.5173

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	lb/day										lb/day					
Hauling	0.7890	27.6906	4.7662	0.0784	1.6804	0.1093	1.7897	0.4605	0.1046	0.5651		8,277.9467	8,277.9467	0.3167		8,285.8638
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
Worker	0.5241	0.4167	4.4668	0.0104	0.9858	8.2000e-003	0.9940	0.2615	7.5700e-003	0.2690		1,034.9703	1,034.9703	0.0427		1,036.0379
Total	1.3131	28.1073	9.2330	0.0888	2.6662	0.1175	2.7837	0.7220	0.1121	0.8341		9,312.9170	9,312.9170	0.3594		9,321.9017

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	lb/day										lb/day					
Fugitive Dust					2.7085	0.0000	2.7085	1.0476	0.0000	1.0476			0.0000			0.0000
Off-Road	4.5265	89.2348	107.3281	0.1967		0.5774	0.5774		0.5774	0.5774	0.0000	18,128.0981	18,128.0981	5.6013		18,268.1300
Total	4.5265	89.2348	107.3281	0.1967	2.7085	0.5774	3.2859	1.0476	0.5774	1.6250	0.0000	18,128.0981	18,128.0981	5.6013		18,268.1300

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	lb/day										lb/day					
Hauling	0.7890	27.6906	4.7662	0.0784	1.6804	0.1093	1.7897	0.4605	0.1046	0.5651		8,277.9467	8,277.9467	0.3167		8,285.8638

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
Worker	0.5241	0.4167	4.4668	0.0104	0.9858	8.2000e-003	0.9940	0.2615	7.5700e-003	0.2690		1,034.9703	1,034.9703	0.0427		1,036.0379
Total	1.3131	28.1073	9.2330	0.0888	2.6662	0.1175	2.7837	0.7220	0.1121	0.8341		9,312.9170	9,312.9170	0.3594		9,321.9017

3.4 Building Construction - 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	lb/day										lb/day					
Off-Road	5.0888	48.3369	46.2096	0.0775		2.5171	2.5171		2.4128	2.4128		7,356.2420	7,356.2420	1.4666		7,392.9059
Total	5.0888	48.3369	46.2096	0.0775		2.5171	2.5171		2.4128	2.4128		7,356.2420	7,356.2420	1.4666		7,392.9059

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	lb/day										lb/day					
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
Vendor	0.5332	14.9610	3.6044	0.0352	0.8192	0.0842	0.9033	0.2358	0.0805	0.3163		3,692.4066	3,692.4066	0.1881		3,697.1101
Worker	3.3020	2.6249	28.1409	0.0655	6.2104	0.0517	6.2620	1.6473	0.0477	1.6950		6,520.3131	6,520.3131	0.2690		6,527.0388
Total	3.8352	17.5859	31.7453	0.1007	7.0295	0.1358	7.1654	1.8831	0.1282	2.0113		10,212.7196	10,212.7196	0.4572		10,224.1488

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	lb/day										lb/day					
Off-Road	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,162.1325	6,162.1325	1.3899		6,196.8811
Total	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,162.1325	6,162.1325	1.3899		6,196.8811

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	lb/day										lb/day					
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
Vendor	0.5332	14.9610	3.6044	0.0352	0.8192	0.0842	0.9033	0.2358	0.0805	0.3163		3,692.4066	3,692.4066	0.1881		3,697.1101
Worker	3.3020	2.6249	28.1409	0.0655	6.2104	0.0517	6.2620	1.6473	0.0477	1.6950		6,520.3131	6,520.3131	0.2690		6,527.0388
Total	3.8352	17.5859	31.7453	0.1007	7.0295	0.1358	7.1654	1.8831	0.1282	2.0113		10,212.7196	10,212.7196	0.4572		10,224.1488

3.4 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	4.5748	43.3052	45.7444	0.0775		2.1511	2.1511		2.0630	2.0630		7,355.6765	7,355.6765	1.4455		7,391.8145
Total	4.5748	43.3052	45.7444	0.0775		2.1511	2.1511		2.0630	2.0630		7,355.6765	7,355.6765	1.4455		7,391.8145

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	lb/day										lb/day					
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
Vendor	0.4353	13.6665	3.1165	0.0349	0.8192	0.0411	0.8603	0.2358	0.0393	0.2751		3,660.8280	3,660.8280	0.1816		3,665.3690
Worker	3.0544	2.3437	25.6749	0.0635	6.2104	0.0501	6.2605	1.6473	0.0462	1.6935		6,316.1966	6,316.1966	0.2409		6,322.2182
Total	3.4897	16.0102	28.7914	0.0983	7.0296	0.0912	7.1208	1.8831	0.0855	1.9687		9,977.0246	9,977.0246	0.4225		9,987.5872

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	lb/day										lb/day					
Off-Road	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,161.5670	6,161.5670	1.3742		6,195.9213

Total	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,161.5670	6,161.5670	1.3742		6,195.9213
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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	lb/day										lb/day					
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
Vendor	0.4353	13.6665	3.1165	0.0349	0.8192	0.0411	0.8603	0.2358	0.0393	0.2751		3,660.8280	3,660.8280	0.1816		3,665.3690
Worker	3.0544	2.3437	25.6749	0.0635	6.2104	0.0501	6.2605	1.6473	0.0462	1.6935		6,316.1966	6,316.1966	0.2409		6,322.2182
Total	3.4897	16.0102	28.7914	0.0983	7.0296	0.0912	7.1208	1.8831	0.0855	1.9687		9,977.0246	9,977.0246	0.4225		9,987.5872

3.4 Building Construction - 2022

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	lb/day										lb/day					
Off-Road	4.2090	39.1509	45.4664	0.0775		1.8730	1.8730		1.7970	1.7970		7,355.4528	7,355.4528	1.4337		7,391.2941
Total	4.2090	39.1509	45.4664	0.0775		1.8730	1.8730		1.7970	1.7970		7,355.4528	7,355.4528	1.4337		7,391.2941

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	lb/day										lb/day						
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
Vendor	0.3996	12.9363	2.8149	0.0346	0.8193	0.0357	0.8550	0.2359	0.0341	0.2700		3,628.1069	3,628.1069	0.1767			3,632.5239
Worker	2.8364	2.0989	23.4604	0.0612	6.2104	0.0484	6.2587	1.6473	0.0446	1.6919		6,093.5490	6,093.5490	0.2154			6,098.9339
Total	3.2359	15.0352	26.2753	0.0958	7.0296	0.0841	7.1137	1.8831	0.0787	1.9619		9,721.6559	9,721.6559	0.3921			9,731.4578

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	lb/day										lb/day						
Off-Road	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,161.3429	6,161.3429	1.3658			6,195.4882
Total	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,161.3429	6,161.3429	1.3658			6,195.4882

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
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Category	lb/day										lb/day				
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
Vendor	0.3996	12.9363	2.8149	0.0346	0.8193	0.0357	0.8550	0.2359	0.0341	0.2700	3,628.1069	3,628.1069	0.1767		3,632.5239
Worker	2.8364	2.0989	23.4604	0.0612	6.2104	0.0484	6.2587	1.6473	0.0446	1.6919	6,093.5490	6,093.5490	0.2154		6,098.9339
Total	3.2359	15.0352	26.2753	0.0958	7.0296	0.0841	7.1137	1.8831	0.0787	1.9619	9,721.6559	9,721.6559	0.3921		9,731.4578

3.4 Building Construction - 2023

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	lb/day										lb/day					
Off-Road	3.9456	36.1785	45.2996	0.0775		1.6572	1.6572		1.5891	1.5891		7,355.4281	7,355.4281	1.4177		7,390.8710
Total	3.9456	36.1785	45.2996	0.0775		1.6572	1.6572		1.5891	1.5891		7,355.4281	7,355.4281	1.4177		7,390.8710

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	lb/day										lb/day					
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
Vendor	0.2999	10.6595	2.4145	0.0339	0.8193	0.0155	0.8348	0.2359	0.0148	0.2506		3,563.9882	3,563.9882	0.1370		3,567.4128

Worker	2.6372	1.8813	21.4339	0.0589	6.2104	0.0469	6.2572	1.6473	0.0432	1.6905		5,867.3999	5,867.3999	0.1925		5,872.2112
Total	2.9371	12.5408	23.8484	0.0928	7.0297	0.0623	7.0920	1.8831	0.0580	1.9411		9,431.3881	9,431.3881	0.3294		9,439.6240

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	lb/day										lb/day					
Off-Road	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,161.3186	6,161.3186	1.3534		6,195.1532
Total	1.4624	31.5109	43.5300	0.0775		0.2922	0.2922		0.2922	0.2922	0.0000	6,161.3186	6,161.3186	1.3534		6,195.1532

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	lb/day										lb/day					
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
Vendor	0.2999	10.6595	2.4145	0.0339	0.8193	0.0155	0.8348	0.2359	0.0148	0.2506		3,563.9882	3,563.9882	0.1370		3,567.4128
Worker	2.6372	1.8813	21.4339	0.0589	6.2104	0.0469	6.2572	1.6473	0.0432	1.6905		5,867.3999	5,867.3999	0.1925		5,872.2112
Total	2.9371	12.5408	23.8484	0.0928	7.0297	0.0623	7.0920	1.8831	0.0580	1.9411		9,431.3881	9,431.3881	0.3294		9,439.6240

3.5 Paving - 2023

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	lb/day										lb/day					
Off-Road	1.7740	18.4003	15.0636	0.0346		0.7348	0.7348		0.6794	0.6794		3,295.4151	3,295.4151	1.0335		3,321.2537
Paving	0.3144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0884	18.4003	15.0636	0.0346		0.7348	0.7348		0.6794	0.6794		3,295.4151	3,295.4151	1.0335		3,321.2537

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	lb/day										lb/day					
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
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
Worker	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641
Total	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641

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
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Category	lb/day										lb/day					
Off-Road	0.8000	16.1831	20.5979	0.0346		0.1192	0.1192		0.1192	0.1192	0.0000	3,196.7880	3,196.7880	1.0233		3,222.3706
Paving	0.3144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1144	16.1831	20.5979	0.0346		0.1192	0.1192		0.1192	0.1192	0.0000	3,196.7880	3,196.7880	1.0233		3,222.3706

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	lb/day										lb/day					
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
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
Worker	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641
Total	0.1326	0.0946	1.0774	2.9600e-003	0.3122	2.3600e-003	0.3145	0.0828	2.1700e-003	0.0850		294.9222	294.9222	9.6700e-003		295.1641

3.6 Architectural Coating - 2023

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	lb/day										lb/day					
Archit. Coating	94.3984					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4582	4.3754	5.6115	9.6600e-003		0.1837	0.1837		0.1756	0.1756		909.4040	909.4040	0.2009		914.4266

Total	94.8566	4.3754	5.6115	9.6600e-003		0.1837	0.1837		0.1756	0.1756		909.4040	909.4040	0.2009		914.4266
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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	lb/day										lb/day					
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
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
Worker	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887
Total	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887

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	lb/day										lb/day					
Archit. Coating	94.3984					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1659	3.5532	4.9204	9.6600e-003		0.0325	0.0325		0.0325	0.0325	0.0000	722.4936	722.4936	0.1927		727.3107
Total	94.5643	3.5532	4.9204	9.6600e-003		0.0325	0.0325		0.0325	0.0325	0.0000	722.4936	722.4936	0.1927		727.3107

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	lb/day										lb/day					
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
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
Worker	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887
Total	0.5267	0.3758	4.2811	0.0118	1.2404	9.3600e-003	1.2498	0.3290	8.6300e-003	0.3377		1,171.9278	1,171.9278	0.0384		1,172.8887

UCSC Heller Operation - Monterey Bay Unified APCD Air District, Annual

UCSC Heller Operation
Monterey Bay Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	3.50	1000sqft	0.08	3,500.00	0
Parking Lot	200.00	Space	1.80	80,000.00	0
Apartments Low Rise	220.00	Dwelling Unit	2.00	96,561.00	629
Apartments Mid Rise	781.00	Dwelling Unit	8.00	758,850.00	2234

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 rate
- Land Use - Based on project description. Wastewater added as Industrial use.
- Construction Phase - Operational Run only
- Off-road Equipment - Operational Run only
- Trips and VMT - Operational Run only
- Energy Use -

Water And Wastewater - Wastewater treatment, no septic or lagoons. 31,200,000 gallons potable water (2,187,938/29,012,062)

Solid Waste - Solidwate projection similar to project description

Energy Mitigation - new energy eddicient construction

Water Mitigation - low-flow fixtures and water-efficient irrigation

Stationary Sources - Emergency Generators and Fire Pumps - Assume up to 50 hours/generator per year

Vehicle Trips - Student trip rate = 0.657

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LandUseSquareFeet	220,000.00	96,561.00
tblLandUse	LandUseSquareFeet	781,000.00	758,850.00
tblLandUse	LotAcreage	13.75	2.00
tblLandUse	LotAcreage	20.55	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	241.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	40.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	536.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00

tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblVehicleTrips	ST_TR	7.16	0.66
tblVehicleTrips	ST_TR	6.39	0.66
tblVehicleTrips	SU_TR	6.07	0.66
tblVehicleTrips	SU_TR	5.86	0.66
tblVehicleTrips	WD_TR	6.59	0.66
tblVehicleTrips	WD_TR	6.65	0.66
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	IndoorWaterUseRate	14,333,885.64	2,187,938.00
tblWater	IndoorWaterUseRate	50,885,294.01	29,012,062.00
tblWater	IndoorWaterUseRate	809,375.00	0.00
tblWater	OutdoorWaterUseRate	9,036,580.08	0.00
tblWater	OutdoorWaterUseRate	32,079,859.27	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	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	4.2095	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723
Energy	0.0614	0.5247	0.2250	3.3500e-003		0.0424	0.0424		0.0424	0.0424	0.0000	1,170.3050	1,170.3050	0.0679	0.0228	1,178.7923
Mobile	0.2248	1.1562	2.6408	8.9600e-003	0.7209	7.4100e-003	0.7284	0.1936	6.9200e-003	0.2005	0.0000	824.0029	824.0029	0.0376	0.0000	824.9418
Stationary	3.2300e-003	9.3500e-003	8.4300e-003	2.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0000	1.4996	1.4996	2.1000e-004	0.0000	1.5048
Waste						0.0000	0.0000		0.0000	0.0000	94.3502	0.0000	94.3502	5.5759	0.0000	233.7486
Water						0.0000	0.0000		0.0000	0.0000	11.0386	22.2073	33.2459	0.0402	0.0245	41.5418
Total	4.4989	1.8092	13.1955	0.0129	0.7209	0.1075	0.8285	0.1936	0.1070	0.3006	105.3888	2,034.8822	2,140.2710	5.7380	0.0472	2,297.8016

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	4.2095	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723
Energy	0.0614	0.5247	0.2250	3.3500e-003		0.0424	0.0424		0.0424	0.0424	0.0000	1,140.9940	1,140.9940	0.0650	0.0222	1,149.2273
Mobile	0.2248	1.1562	2.6408	8.9600e-003	0.7209	7.4100e-003	0.7284	0.1936	6.9200e-003	0.2005	0.0000	824.0029	824.0029	0.0376	0.0000	824.9418
Stationary	3.2300e-003	9.3500e-003	8.4300e-003	2.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0000	1.4996	1.4996	2.1000e-004	0.0000	1.5048
Waste						0.0000	0.0000		0.0000	0.0000	94.3502	0.0000	94.3502	5.5759	0.0000	233.7486
Water						0.0000	0.0000		0.0000	0.0000	8.8309	17.7658	26.5967	0.0322	0.0196	33.2334

Total	4.4989	1.8092	13.1955	0.0129	0.7209	0.1075	0.8285	0.1936	0.1070	0.3006	103.1811	2,001.1297	2,104.3108	5.7271	0.0418	2,259.9283
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.09	1.66	1.68	0.19	11.62	1.65

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	0.2248	1.1562	2.6408	8.9600e-003	0.7209	7.4100e-003	0.7284	0.1936	6.9200e-003	0.2005	0.0000	824.0029	824.0029	0.0376	0.0000	824.9418
Unmitigated	0.2248	1.1562	2.6408	8.9600e-003	0.7209	7.4100e-003	0.7284	0.1936	6.9200e-003	0.2005	0.0000	824.0029	824.0029	0.0376	0.0000	824.9418

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.20	145.20	145.20	418,305	418,305
Apartments Mid Rise	515.46	515.46	515.46	1,484,983	1,484,983
General Heavy Industry	5.25	5.25	5.25	15,327	15,327
Parking Lot	0.00	0.00	0.00		
Total	665.91	665.91	665.91	1,918,616	1,918,616

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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 Low Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	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 Low Rise	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786
Apartments Mid Rise	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786
General Heavy Industry	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786
Parking Lot	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	533.6081	533.6081	0.0534	0.0110	538.2321
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	562.9191	562.9191	0.0563	0.0117	567.7971
Natural Gas Mitigated	0.0614	0.5247	0.2250	3.3500e-003		0.0424	0.0424		0.0424	0.0424	0.0000	607.3858	607.3858	0.0116	0.0111	610.9952

NaturalGas Unmitigated	0.0614	0.5247	0.2250	3.3500e-003		0.0424	0.0424		0.0424	0.0424	0.0000	607.3858	607.3858	0.0116	0.0111	610.9952
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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	4.47689e+006	0.0241	0.2063	0.0878	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	238.9039	238.9039	4.5800e-003	4.3800e-003	240.3236
Apartments Mid Rise	6.81847e+006	0.0368	0.3142	0.1337	2.0100e-003		0.0254	0.0254		0.0254	0.0254	0.0000	363.8593	363.8593	6.9700e-003	6.6700e-003	366.0215
General Heavy Industry	86625	4.7000e-004	4.2500e-003	3.5700e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6226	4.6226	9.0000e-005	8.0000e-005	4.6501
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		0.0614	0.5247	0.2251	3.3600e-003		0.0424	0.0424		0.0424	0.0424	0.0000	607.3858	607.3858	0.0116	0.0111	610.9952

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	4.47689e+006	0.0241	0.2063	0.0878	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	238.9039	238.9039	4.5800e-003	4.3800e-003	240.3236
Apartments Mid Rise	6.81847e+006	0.0368	0.3142	0.1337	2.0100e-003		0.0254	0.0254		0.0254	0.0254	0.0000	363.8593	363.8593	6.9700e-003	6.6700e-003	366.0215
General Heavy Industry	86625	4.7000e-004	4.2500e-003	3.5700e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6226	4.6226	9.0000e-005	8.0000e-005	4.6501
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		0.0614	0.5247	0.2251	3.3600e-003		0.0424	0.0424		0.0424	0.0424	0.0000	607.3858	607.3858	0.0116	0.0111	610.9952

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	927560	122.0129	0.0122	2.5200e-003	123.0702
Apartments Mid Rise	3.29737e+006	433.7425	0.0434	8.9700e-003	437.5011
General Heavy Industry	26460	3.4806	3.5000e-004	7.0000e-005	3.5108
Parking Lot	28000	3.6832	3.7000e-004	8.0000e-005	3.7151
Total		562.9191	0.0563	0.0116	567.7971

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	877641	115.4465	0.0115	2.3900e-003	116.4469
Apartments Mid Rise	3.13524e+006	412.4146	0.0412	8.5300e-003	415.9883
General Heavy Industry	23529.8	3.0952	3.1000e-004	6.0000e-005	3.1220
Parking Lot	20160	2.6519	2.7000e-004	5.0000e-005	2.6749
Total		533.6081	0.0534	0.0110	538.2321

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	4.2095	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723
Unmitigated	4.2095	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723

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	0.5394					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3597					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3105	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723
Total	4.2095	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723

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	0.5394					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3597					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3105	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723
Total	4.2095	0.1189	10.3212	5.5000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8674	16.8674	0.0162	0.0000	17.2723

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.5967	0.0322	0.0196	33.2334

Unmitigated	33.2459	0.0402	0.0245	41.5418
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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.18794 / 0	2.3314	2.8200e-003	1.7200e-003	2.9132
Apartments Mid Rise	29.0121 / 0	30.9145	0.0374	0.0228	38.6286
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		33.2459	0.0402	0.0245	41.5418

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.75035 / 0	1.8651	2.2600e-003	1.3700e-003	2.3305
Apartments Mid Rise	23.2096 / 0	24.7316	0.0299	0.0182	30.9029
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000

Total		26.5967	0.0322	0.0196	33.2334
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8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	94.3502	5.5759	0.0000	233.7486
Unmitigated	94.3502	5.5759	0.0000	233.7486

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	101.2	20.5427	1.2140	0.0000	50.8936
Apartments Mid Rise	359.26	72.9265	4.3098	0.0000	180.6724
General Heavy Industry	4.34	0.8810	0.0521	0.0000	2.1826
Parking Lot	0	0.0000	0.0000	0.0000	0.0000

Total		94.3502	5.5759	0.0000	233.7486
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Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	101.2	20.5427	1.2140	0.0000	50.8936
Apartments Mid Rise	359.26	72.9265	4.3098	0.0000	180.6724
General Heavy Industry	4.34	0.8810	0.0521	0.0000	2.1826
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		94.3502	5.5759	0.0000	233.7486

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	2	0.25	2	241	0.73	Diesel
Emergency Generator	2	0.25	2	40	0.73	Diesel
Emergency Generator	2	0.25	2	536	0.73	Diesel
Emergency Generator	1	0.25	2	335	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (175, 200 HP)	7.9000e-004	2.2100e-003	2.0200e-003	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	0.3671	0.3671	5.0000e-005	0.0000	0.3684
Emergency Generator - Diesel (25, 50 HP)	1.3000e-004	6.8000e-004	5.3000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0609	0.0609	1.0000e-005	0.0000	0.0611
Emergency Generator - Diesel (200, 200 HP)	2.3100e-003	6.4500e-003	5.8900e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	1.0716	1.0716	1.5000e-004	0.0000	1.0753
Total	3.2300e-003	9.3400e-003	8.4400e-003	1.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4996	1.4996	2.1000e-004	0.0000	1.5048

11.0 Vegetation

UCSC Heller Operation - Monterey Bay Unified APCD Air District, Summer

**UCSC Heller Operation
Monterey Bay Unified APCD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	3.50	1000sqft	0.08	3,500.00	0
Parking Lot	200.00	Space	1.80	80,000.00	0
Apartments Low Rise	220.00	Dwelling Unit	2.00	96,561.00	629
Apartments Mid Rise	781.00	Dwelling Unit	8.00	758,850.00	2234

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 rate
- Land Use - Based on project description. Wastewater added as Industrial use.
- Construction Phase - Operational Run only
- Off-road Equipment - Operational Run only
- Trips and VMT - Operational Run only
- Energy Use -

Water And Wastewater - Wastewater treatment, no septic or lagoons. 31,200,000 gallons potable water (2,187,938/29,012,062)

Solid Waste - Solidwate projection similar to project description

Energy Mitigation - new energy eddicient construction

Water Mitigation - low-flow fixtures and water-efficient irrigation

Stationary Sources - Emergency Generators and Fire Pumps - Assume up to 50 hours/generator per year

Vehicle Trips - Student trip rate = 0.657

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LandUseSquareFeet	220,000.00	96,561.00
tblLandUse	LandUseSquareFeet	781,000.00	758,850.00
tblLandUse	LotAcreage	13.75	2.00
tblLandUse	LotAcreage	20.55	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	241.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	40.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	536.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00

tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblVehicleTrips	ST_TR	7.16	0.66
tblVehicleTrips	ST_TR	6.39	0.66
tblVehicleTrips	SU_TR	6.07	0.66
tblVehicleTrips	SU_TR	5.86	0.66
tblVehicleTrips	WD_TR	6.59	0.66
tblVehicleTrips	WD_TR	6.65	0.66
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	IndoorWaterUseRate	14,333,885.64	2,187,938.00
tblWater	IndoorWaterUseRate	50,885,294.01	29,012,062.00
tblWater	IndoorWaterUseRate	809,375.00	0.00
tblWater	OutdoorWaterUseRate	9,036,580.08	0.00
tblWater	OutdoorWaterUseRate	32,079,859.27	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational Unmitigated Operational

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	lb/day										lb/day					
Mitigated	1.3329	6.1395	14.7907	0.0514	4.0877	0.0407	4.1284	1.0946	0.0380	1.1326		5,210.6380	5,210.6380	0.2277		5,216.3300
Unmitigated	1.3329	6.1395	14.7907	0.0514	4.0877	0.0407	4.1284	1.0946	0.0380	1.1326		5,210.6380	5,210.6380	0.2277		5,216.3300

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.20	145.20	145.20	418,305	418,305
Apartments Mid Rise	515.46	515.46	515.46	1,484,983	1,484,983
General Heavy Industry	5.25	5.25	5.25	15,327	15,327
Parking Lot	0.00	0.00	0.00		
Total	665.91	665.91	665.91	1,918,616	1,918,616

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	7.30	7.50	44.00	18.80	37.20	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	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 Low Rise	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786
Apartments Mid Rise	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786
General Heavy Industry	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786
Parking Lot	0.552293	0.026858	0.203057	0.118966	0.019018	0.004857	0.019364	0.041479	0.003068	0.002366	0.006793	0.001094	0.000786

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3363	2.8752	1.2331	0.0183		0.2324	0.2324		0.2324	0.2324		3,668.648 1	3,668.6481	0.0703	0.0673	3,690.449 1
NaturalGas Unmitigated	0.3363	2.8752	1.2331	0.0183		0.2324	0.2324		0.2324	0.2324		3,668.648 1	3,668.6481	0.0703	0.0673	3,690.449 1

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
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Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	12265.5	0.1323	1.1304	0.4810	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9944	1,442.9944	0.0277	0.0265	1,451.5694
Apartments Mid Rise	18680.7	0.2015	1.7216	0.7326	0.0110		0.1392	0.1392		0.1392	0.1392		2,197.7327	2,197.7327	0.0421	0.0403	2,210.7928
General Heavy Industry	237.329	2.5600e-003	0.0233	0.0195	1.4000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003		27.9210	27.9210	5.4000e-004	5.1000e-004	28.0870
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
Total		0.3363	2.8752	1.2331	0.0183		0.2324	0.2324		0.2324	0.2324		3,668.6481	3,668.6481	0.0703	0.0673	3,690.4491

Mitigated

	Natural Gas 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	lb/day										lb/day					
Apartments Low Rise	12.2655	0.1323	1.1304	0.4810	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9944	1,442.9944	0.0277	0.0265	1,451.5694
Apartments Mid Rise	18.6807	0.2015	1.7216	0.7326	0.0110		0.1392	0.1392		0.1392	0.1392		2,197.7327	2,197.7327	0.0421	0.0403	2,210.7928
General Heavy Industry	0.237329	2.5600e-003	0.0233	0.0195	1.4000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003		27.9210	27.9210	5.4000e-004	5.1000e-004	28.0870
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
Total		0.3363	2.8752	1.2331	0.0183		0.2324	0.2324		0.2324	0.2324		3,668.6481	3,668.6481	0.0703	0.0673	3,690.4491

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	lb/day										lb/day					
Mitigated	23.8484	0.9513	82.5698	4.3600e-003		0.4576	0.4576		0.4576	0.4576	0.0000	148.7454	148.7454	0.1428	0.0000	152.3152
Unmitigated	23.8484	0.9513	82.5698	4.3600e-003		0.4576	0.4576		0.4576	0.4576	0.0000	148.7454	148.7454	0.1428	0.0000	152.3152

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	lb/day										lb/day					
Architectural Coating	2.9554					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	18.4090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4840	0.9513	82.5698	4.3600e-003		0.4576	0.4576		0.4576	0.4576		148.7454	148.7454	0.1428		152.3152
Total	23.8484	0.9513	82.5698	4.3600e-003		0.4576	0.4576		0.4576	0.4576	0.0000	148.7454	148.7454	0.1428	0.0000	152.3152

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	lb/day										lb/day					
Architectural Coating	2.9554					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	18.4090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4840	0.9513	82.5698	4.3600e-003		0.4576	0.4576		0.4576	0.4576		148.7454	148.7454	0.1428		152.3152
Total	23.8484	0.9513	82.5698	4.3600e-003		0.4576	0.4576		0.4576	0.4576	0.0000	148.7454	148.7454	0.1428	0.0000	152.3152

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Emergency Generator	2	0.25	2	241	0.73	Diesel
Emergency Generator	2	0.25	2	40	0.73	Diesel
Emergency Generator	2	0.25	2	536	0.73	Diesel
Emergency Generator	1	0.25	2	335	0.73	Diesel

Boilers

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

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (175, 200 HP)	0.1978	0.5527	0.5042	9.5000e-004		0.0291	0.0291		0.0291	0.0291		101.1615	101.1615	0.0142		101.5160
Emergency Generator - Diesel (25, 50 HP)	0.0328	0.1712	0.1321	1.6000e-004		0.0144	0.0144		0.0144	0.0144		16.7903	16.7903	2.3500e-003		16.8491
Emergency Generator - Diesel (200, 200 HP)	0.5773	1.6134	1.4719	2.7700e-003		0.0849	0.0849		0.0849	0.0849		295.2991	295.2991	0.0414		296.3341
Total	0.8078	2.3372	2.1082	3.8800e-003		0.1284	0.1284		0.1284	0.1284		413.2508	413.2508	0.0579		414.6993

11.0 Vegetation

UCSC Hagar Daycare - Monterey Bay Unified APCD Air District, Annual

UCSC Hagar Daycare
Monterey Bay Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	13.50	1000sqft	3.00	13,500.00	0
Parking Lot	50.00	Space	1.00	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume PG&E 2020 rate

Land Use - Estimated acreage

Construction Phase - Based on construction schedule

Off-road Equipment - Based on equipment list

Off-road Equipment - Based on Equipment list

Off-road Equipment - Based on Equipment list

Off-road Equipment - Based on Equipment list

Off-road Equipment - Based on Equipment list

Trips and VMT - Default Trips

Grading - Export material included in Student Housing

Construction Off-road Equipment Mitigation - Water 2x 15 mph, Tier 3 DPF 3, Electric signal board & generator

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	230.00	160.00
tblConstructionPhase	NumDays	18.00	5.00

tblConstructionPhase	NumDays	18.00	130.00
tblConstructionPhase	PhaseEndDate	6/19/2019	6/28/2019
tblConstructionPhase	PhaseEndDate	5/6/2020	2/7/2020
tblConstructionPhase	PhaseEndDate	6/1/2020	2/14/2020
tblConstructionPhase	PhaseEndDate	6/25/2020	3/30/2020
tblConstructionPhase	PhaseStartDate	6/20/2019	6/29/2019
tblConstructionPhase	PhaseStartDate	5/7/2020	2/8/2020
tblConstructionPhase	PhaseStartDate	6/2/2020	10/1/2019
tblLandUse	LotAcreage	0.31	3.00
tblLandUse	LotAcreage	0.45	1.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.46	0.46
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tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators

tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	1.20
tblOffRoadEquipment	UsageHours	6.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	6.00	5.60
tblOffRoadEquipment	UsageHours	6.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

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	0.1707	1.2723	0.9722	1.8900e-003	0.0418	0.0573	0.0991	7.5600e-003	0.0538	0.0613	0.0000	168.4529	168.4529	0.0403	0.0000	169.4612
2020	0.0680	0.1772	0.1701	3.2000e-004	8.7700e-003	8.1200e-003	0.0169	2.2600e-003	7.6400e-003	9.9000e-003	0.0000	28.4688	28.4688	6.1800e-003	0.0000	28.6233
Maximum	0.1707	1.2723	0.9722	1.8900e-003	0.0418	0.0573	0.0991	7.5600e-003	0.0538	0.0613	0.0000	168.4529	168.4529	0.0403	0.0000	169.4612

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	0.0939	0.7668	0.9815	1.8900e-003	0.0295	6.2100e-003	0.0358	6.2400e-003	6.1900e-003	0.0124	0.0000	148.9485	148.9485	0.0391	0.0000	149.9253
2020	0.0575	0.1239	0.1690	3.2000e-004	8.7700e-003	1.1000e-003	9.8700e-003	2.2600e-003	1.1000e-003	3.3600e-003	0.0000	25.1470	25.1470	5.9900e-003	0.0000	25.2967
Maximum	0.0939	0.7668	0.9815	1.8900e-003	0.0295	6.2100e-003	0.0358	6.2400e-003	6.1900e-003	0.0124	0.0000	148.9485	148.9485	0.0391	0.0000	149.9253

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	36.55	38.55	-0.71	0.00	24.23	88.83	60.68	13.44	88.13	77.85	0.00	11.59	11.59	3.12	0.00	11.54

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2019	8-31-2019	0.8381	0.4713
2	9-1-2019	11-30-2019	0.4502	0.2878

3	12-1-2019	2-29-2020	0.3824	0.2648
4	3-1-2020	5-31-2020	0.0181	0.0186
		Highest	0.8381	0.4713

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	6/7/2019	5	5	1 week
2	Grading	Grading	6/8/2019	6/28/2019	5	15	3 weeks
3	Building Construction	Building Construction	6/29/2019	2/7/2020	5	160	32 weeks - overlap
4	Architectural Coating	Architectural Coating	10/1/2019	3/30/2020	5	130	26 weeks - overlap
5	Paving	Paving	2/8/2020	2/14/2020	5	5	1 week - overlap

Acres of Grading (Site Preparation Phase): 5.25

Acres of Grading (Grading Phase): 36.75

Acres of Paving: 1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 20,250; Non-Residential Outdoor: 6,750; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Air Compressors	1	5.60	78	0.48
Site Preparation	Crawler Tractors	1	5.60	212	0.43
Site Preparation	Excavators	1	5.60	158	0.38
Site Preparation	Generator Sets	1	5.60	84	0.74
Site Preparation	Rubber Tired Dozers	0	5.60	247	0.40
Site Preparation	Off-Highway Tractors	1	5.60	124	0.44
Site Preparation	Rubber Tired Loaders	1	5.60	203	0.36
Site Preparation	Scrapers	1	5.60	367	0.48
Site Preparation	Signal Boards	2	5.60	6	0.82

Site Preparation	Skid Steer Loaders	1	5.60	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Site Preparation	Sweepers/Scrubbers	1	5.60	64	0.46
Grading	Excavators	2	5.60	158	0.38
Grading	Crawler Tractors	1	5.60	212	0.43
Grading	Graders	2	5.60	187	0.41
Grading	Generator Sets	1	5.60	84	0.74
Grading	Off-Highway Tractors	2	5.60	124	0.44
Grading	Plate Compactors	2	5.60	8	0.43
Grading	Rubber Tired Dozers	0	5.60	247	0.40
Grading	Rollers	2	5.60	80	0.38
Grading	Rubber Tired Loaders	2	5.60	203	0.36
Grading	Scrapers	2	5.60	367	0.48
Grading	Signal Boards	2	5.60	6	0.82
Grading	Skid Steer Loaders	1	5.60	65	0.37
Grading	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Grading	Sweepers/Scrubbers	1	5.60	64	0.46
Building Construction	Cranes	2	3.20	231	0.29
Building Construction	Forklifts	0	3.20	89	0.20
Building Construction	Generator Sets	1	3.20	84	0.74
Building Construction	Aerial Lifts	4	3.20	63	0.31
Building Construction	Air Compressors	1	3.20	78	0.48
Building Construction	Tractors/Loaders/Backhoes	0	3.20	97	0.37
Building Construction	Welders	0	3.20	46	0.45
Paving	Cement and Mortar Mixers	0	5.60	9	0.56
Paving	Pavers	1	5.60	130	0.42
Paving	Paving Equipment	1	5.60	132	0.36
Building Construction	Rough Terrain Forklifts	2	3.20	100	0.40
Paving	Rollers	2	5.60	80	0.38
Building Construction	Sweepers/Scrubbers	1	3.20	64	0.46

Architectural Coating	Aerial Lifts	1	1.20	63	0.31
Paving	Plate Compactors	2	5.60	8	0.43
Paving	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Paving	Signal Boards	2	5.60	6	0.82
Architectural Coating	Air Compressors	0	1.20	78	0.48
Paving	Skid Steer Loaders	1	5.60	65	0.37
Paving	Sweepers/Scrubbers	1	5.60	64	0.46

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	11	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	20	50.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	14.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	10	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

Off-Road	2.0200e-003	0.0403	0.0508	1.0000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	7.4723	7.4723	2.2300e-003	0.0000	7.5279
Total	2.0200e-003	0.0403	0.0508	1.0000e-004	1.2500e-003	2.8000e-004	1.5300e-003	1.4000e-004	2.8000e-004	4.2000e-004	0.0000	7.4723	7.4723	2.2300e-003	0.0000	7.5279

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	3.1000e-004	2.8000e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5332	0.5332	2.0000e-005	0.0000	0.5338
Total	3.3000e-004	3.1000e-004	2.8000e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5332	0.5332	2.0000e-005	0.0000	0.5338

3.3 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					0.0195	0.0000	0.0195	2.1000e-003	0.0000	2.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0371	0.4266	0.2644	5.4000e-004		0.0181	0.0181		0.0167	0.0167	0.0000	47.8576	47.8576	0.0142	0.0000	48.2131
Total	0.0371	0.4266	0.2644	5.4000e-004	0.0195	0.0181	0.0376	2.1000e-003	0.0167	0.0188	0.0000	47.8576	47.8576	0.0142	0.0000	48.2131

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	1.7900e-003	1.6800e-003	0.0150	3.0000e-005	2.9800e-003	3.0000e-005	3.0100e-003	7.9000e-004	2.0000e-005	8.2000e-004	0.0000	2.8564	2.8564	1.3000e-004	0.0000	2.8598
Total	1.7900e-003	1.6800e-003	0.0150	3.0000e-005	2.9800e-003	3.0000e-005	3.0100e-003	7.9000e-004	2.0000e-005	8.2000e-004	0.0000	2.8564	2.8564	1.3000e-004	0.0000	2.8598

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7700e-003	0.0000	8.7700e-003	9.5000e-004	0.0000	9.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.2378	0.2963	5.4000e-004		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	44.4204	44.4204	0.0140	0.0000	44.7700
Total	0.0121	0.2378	0.2963	5.4000e-004	8.7700e-003	1.5700e-003	0.0103	9.5000e-004	1.5700e-003	2.5200e-003	0.0000	44.4204	44.4204	0.0140	0.0000	44.7700

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
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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
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	1.7900e-003	1.6800e-003	0.0150	3.0000e-005	2.9800e-003	3.0000e-005	3.0100e-003	7.9000e-004	2.0000e-005	8.2000e-004	0.0000	2.8564	2.8564	1.3000e-004	0.0000	2.8598
Total	1.7900e-003	1.6800e-003	0.0150	3.0000e-005	2.9800e-003	3.0000e-005	3.0100e-003	7.9000e-004	2.0000e-005	8.2000e-004	0.0000	2.8564	2.8564	1.3000e-004	0.0000	2.8598

3.4 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	0.0670	0.7160	0.5731	1.0100e-003		0.0353	0.0353		0.0333	0.0333	0.0000	89.4850	89.4850	0.0225	0.0000	90.0463
Total	0.0670	0.7160	0.5731	1.0100e-003		0.0353	0.0353		0.0333	0.0333	0.0000	89.4850	89.4850	0.0225	0.0000	90.0463

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	1.8500e-003	0.0452	0.0122	1.0000e-004	2.1800e-003	3.6000e-004	2.5400e-003	6.3000e-004	3.4000e-004	9.7000e-004	0.0000	9.0558	9.0558	5.3000e-004	0.0000	9.0689

Worker	4.4200e-003	4.1500e-003	0.0370	8.0000e-005	7.3500e-003	7.0000e-005	7.4200e-003	1.9500e-003	6.0000e-005	2.0200e-003	0.0000	7.0383	7.0383	3.3000e-004	0.0000	7.0465
Total	6.2700e-003	0.0494	0.0491	1.8000e-004	9.5300e-003	4.3000e-004	9.9600e-003	2.5800e-003	4.0000e-004	2.9900e-003	0.0000	16.0940	16.0940	8.6000e-004	0.0000	16.1154

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0200	0.4314	0.5492	1.0100e-003		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	74.5634	74.5634	0.0215	0.0000	75.1011
Total	0.0200	0.4314	0.5492	1.0100e-003		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	74.5634	74.5634	0.0215	0.0000	75.1011

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	1.8500e-003	0.0452	0.0122	1.0000e-004	2.1800e-003	3.6000e-004	2.5400e-003	6.3000e-004	3.4000e-004	9.7000e-004	0.0000	9.0558	9.0558	5.3000e-004	0.0000	9.0689
Worker	4.4200e-003	4.1500e-003	0.0370	8.0000e-005	7.3500e-003	7.0000e-005	7.4200e-003	1.9500e-003	6.0000e-005	2.0200e-003	0.0000	7.0383	7.0383	3.3000e-004	0.0000	7.0465
Total	6.2700e-003	0.0494	0.0491	1.8000e-004	9.5300e-003	4.3000e-004	9.9600e-003	2.5800e-003	4.0000e-004	2.9900e-003	0.0000	16.0940	16.0940	8.6000e-004	0.0000	16.1154

3.4 Building Construction - 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	0.0130	0.1392	0.1194	2.1000e-004		6.5900e-003	6.5900e-003		6.2100e-003	6.2100e-003	0.0000	18.6805	18.6805	4.7300e-003	0.0000	18.7987
Total	0.0130	0.1392	0.1194	2.1000e-004		6.5900e-003	6.5900e-003		6.2100e-003	6.2100e-003	0.0000	18.6805	18.6805	4.7300e-003	0.0000	18.7987

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	8.7600e-003	2.2300e-003	2.0000e-005	4.6000e-004	5.0000e-005	5.1000e-004	1.3000e-004	5.0000e-005	1.8000e-004	0.0000	1.9124	1.9124	1.0000e-004	0.0000	1.9150
Worker	8.5000e-004	7.8000e-004	6.9700e-003	2.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.3000e-004	0.0000	1.4479	1.4479	6.0000e-005	0.0000	1.4494
Total	1.1700e-003	9.5400e-003	9.2000e-003	4.0000e-005	2.0200e-003	6.0000e-005	2.0800e-003	5.4000e-004	6.0000e-005	6.1000e-004	0.0000	3.3604	3.3604	1.6000e-004	0.0000	3.3644

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
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Category	tons/yr										MT/yr					
Off-Road	4.2500e-003	0.0915	0.1165	2.1000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	15.5154	15.5154	4.5500e-003	0.0000	15.6291
Total	4.2500e-003	0.0915	0.1165	2.1000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	15.5154	15.5154	4.5500e-003	0.0000	15.6291

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	8.7600e-003	2.2300e-003	2.0000e-005	4.6000e-004	5.0000e-005	5.1000e-004	1.3000e-004	5.0000e-005	1.8000e-004	0.0000	1.9124	1.9124	1.0000e-004	0.0000	1.9150
Worker	8.5000e-004	7.8000e-004	6.9700e-003	2.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.3000e-004	0.0000	1.4479	1.4479	6.0000e-005	0.0000	1.4494
Total	1.1700e-003	9.5400e-003	9.2000e-003	4.0000e-005	2.0200e-003	6.0000e-005	2.0800e-003	5.4000e-004	6.0000e-005	6.1000e-004	0.0000	3.3604	3.3604	1.6000e-004	0.0000	3.3644

3.5 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	0.0498					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0000e-004	3.3700e-003	5.4100e-003	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.7465	0.7465	2.4000e-004	0.0000	0.7524

Total	0.0500	3.3700e-003	5.4100e-003	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.7465	0.7465	2.4000e-004	0.0000	0.7524
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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	1.4200e-003	1.3300e-003	0.0119	3.0000e-005	6.4500e-003	2.0000e-005	6.4700e-003	1.6300e-003	2.0000e-005	1.6500e-003	0.0000	2.2623	2.2623	1.1000e-004	0.0000	2.2649
Total	1.4200e-003	1.3300e-003	0.0119	3.0000e-005	6.4500e-003	2.0000e-005	6.4700e-003	1.6300e-003	2.0000e-005	1.6500e-003	0.0000	2.2623	2.2623	1.1000e-004	0.0000	2.2649

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	0.0498					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0000e-004	4.6700e-003	6.3100e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7465	0.7465	2.4000e-004	0.0000	0.7524
Total	0.0500	4.6700e-003	6.3100e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7465	0.7465	2.4000e-004	0.0000	0.7524

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	1.4200e-003	1.3300e-003	0.0119	3.0000e-005	6.4500e-003	2.0000e-005	6.4700e-003	1.6300e-003	2.0000e-005	1.6500e-003	0.0000	2.2623	2.2623	1.1000e-004	0.0000	2.2649
Total	1.4200e-003	1.3300e-003	0.0119	3.0000e-005	6.4500e-003	2.0000e-005	6.4700e-003	1.6300e-003	2.0000e-005	1.6500e-003	0.0000	2.2623	2.2623	1.1000e-004	0.0000	2.2649

3.5 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	0.0483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-004	3.0900e-003	5.2500e-003	1.0000e-005		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.7081	0.7081	2.3000e-004	0.0000	0.7139
Total	0.0485	3.0900e-003	5.2500e-003	1.0000e-005		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.7081	0.7081	2.3000e-004	0.0000	0.7139

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	1.2500e-003	1.1400e-003	0.0102	2.0000e-005	6.2500e-003	2.0000e-005	6.2700e-003	1.5800e-003	2.0000e-005	1.6000e-003	0.0000	2.1276	2.1276	9.0000e-005	0.0000	2.1298
Total	1.2500e-003	1.1400e-003	0.0102	2.0000e-005	6.2500e-003	2.0000e-005	6.2700e-003	1.5800e-003	2.0000e-005	1.6000e-003	0.0000	2.1276	2.1276	9.0000e-005	0.0000	2.1298

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	0.0483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0000e-004	4.5300e-003	6.1200e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7081	0.7081	2.3000e-004	0.0000	0.7139
Total	0.0485	4.5300e-003	6.1200e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7081	0.7081	2.3000e-004	0.0000	0.7139

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	1.2500e-003	1.1400e-003	0.0102	2.0000e-005	6.2500e-003	2.0000e-005	6.2700e-003	1.5800e-003	2.0000e-005	1.6000e-003	0.0000	2.1276	2.1276	9.0000e-005	0.0000	2.1298

Total	1.2500e-003	1.1400e-003	0.0102	2.0000e-005	6.2500e-003	2.0000e-005	6.2700e-003	1.5800e-003	2.0000e-005	1.6000e-003	0.0000	2.1276	2.1276	9.0000e-005	0.0000	2.1298
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3.6 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	2.5000e-003	0.0240	0.0238	4.0000e-005		1.3800e-003	1.3800e-003		1.2800e-003	1.2800e-003	0.0000	3.1305	3.1305	9.5000e-004	0.0000	3.1543
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.8100e-003	0.0240	0.0238	4.0000e-005		1.3800e-003	1.3800e-003		1.2800e-003	1.2800e-003	0.0000	3.1305	3.1305	9.5000e-004	0.0000	3.1543

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	2.5000e-004	2.2200e-003	1.0000e-005	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4617	0.4617	2.0000e-005	0.0000	0.4622
Total	2.7000e-004	2.5000e-004	2.2200e-003	1.0000e-005	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4617	0.4617	2.0000e-005	0.0000	0.4622

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	8.0000e-004	0.0170	0.0247	4.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.9739	2.9739	9.4000e-004	0.0000	2.9973
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1100e-003	0.0170	0.0247	4.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.9739	2.9739	9.4000e-004	0.0000	2.9973

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	2.5000e-004	2.2200e-003	1.0000e-005	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4617	0.4617	2.0000e-005	0.0000	0.4622
Total	2.7000e-004	2.5000e-004	2.2200e-003	1.0000e-005	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4617	0.4617	2.0000e-005	0.0000	0.4622

UCSC Hagar Daycare - Monterey Bay Unified APCD Air District, Summer

UCSC Hagar Daycare
Monterey Bay Unified APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	13.50	1000sqft	3.00	13,500.00	0
Parking Lot	50.00	Space	1.00	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			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 - Assume PG&E 2020 rate

Land Use - Estimated acreage

Construction Phase - Based on construction schedule

Off-road Equipment - Based on equipment list

Off-road Equipment - Based on Equipment list

Off-road Equipment - Based on Equipment list

Off-road Equipment - Based on Equipment list

Off-road Equipment - Based on Equipment list

Trips and VMT - Default Trips

Grading - Export material included in Student Housing

Construction Off-road Equipment Mitigation - Water 2x 15 mph, Tier 3 DPF 3, Electric signal board & generator

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	230.00	160.00
tblConstructionPhase	NumDays	18.00	5.00

tblConstructionPhase	NumDays	18.00	130.00
tblConstructionPhase	PhaseEndDate	6/19/2019	6/28/2019
tblConstructionPhase	PhaseEndDate	5/6/2020	2/7/2020
tblConstructionPhase	PhaseEndDate	6/1/2020	2/14/2020
tblConstructionPhase	PhaseEndDate	6/25/2020	3/30/2020
tblConstructionPhase	PhaseStartDate	6/20/2019	6/29/2019
tblConstructionPhase	PhaseStartDate	5/7/2020	2/8/2020
tblConstructionPhase	PhaseStartDate	6/2/2020	10/1/2019
tblLandUse	LotAcreage	0.31	3.00
tblLandUse	LotAcreage	0.45	1.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators

tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	1.20
tblOffRoadEquipment	UsageHours	6.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	6.00	5.60
tblOffRoadEquipment	UsageHours	6.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2019	5.1822	57.0809	37.3412	0.0762	3.0090	2.4121	5.4211	0.3895	2.2345	2.6240	0.0000	7,478.4726	7,478.4726	2.1106	0.0000	7,531.2374
2020	3.1885	10.7341	10.9636	0.0190	0.4078	0.5571	0.9649	0.1056	0.5152	0.6209	0.0000	1,846.1810	1,846.1810	0.4407	0.0000	1,856.0824
Maximum	5.1822	57.0809	37.3412	0.0762	3.0090	2.4121	5.4211	0.3895	2.2345	2.6240	0.0000	7,478.4726	7,478.4726	2.1106	0.0000	7,531.2374

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	lb/day										lb/day					
2019	1.9561	31.9017	41.5978	0.0762	1.5799	0.2125	1.7925	0.2352	0.2123	0.4475	0.0000	6,973.3094	6,973.3094	2.0758	0.0000	7,025.2043
2020	2.5075	7.3753	11.3423	0.0190	0.4078	0.0656	0.4735	0.1056	0.0655	0.1711	0.0000	1,628.9005	1,628.9005	0.4335	0.0000	1,639.7375
Maximum	2.5075	31.9017	41.5978	0.0762	1.5799	0.2125	1.7925	0.2352	0.2123	0.4475	0.0000	6,973.3094	6,973.3094	2.0758	0.0000	7,025.2043

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	46.68	42.08	-9.60	0.00	41.82	90.63	64.52	31.16	89.90	80.94	0.00	7.75	7.75	1.64	0.00	7.70

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	6/7/2019	5	5	1 week
2	Grading	Grading	6/8/2019	6/28/2019	5	15	3 weeks
3	Building Construction	Building Construction	6/29/2019	2/7/2020	5	160	32 weeks - overlap
4	Architectural Coating	Architectural Coating	10/1/2019	3/30/2020	5	130	26 weeks - overlap
5	Paving	Paving	2/8/2020	2/14/2020	5	5	1 week - overlap

Acres of Grading (Site Preparation Phase): 5.25

Acres of Grading (Grading Phase): 36.75

Acres of Paving: 1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 20,250; Non-Residential Outdoor: 6,750; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Air Compressors	1	5.60	78	0.48
Site Preparation	Crawler Tractors	1	5.60	212	0.43
Site Preparation	Excavators	1	5.60	158	0.38
Site Preparation	Generator Sets	1	5.60	84	0.74
Site Preparation	Rubber Tired Dozers	0	5.60	247	0.40
Site Preparation	Off-Highway Tractors	1	5.60	124	0.44
Site Preparation	Rubber Tired Loaders	1	5.60	203	0.36
Site Preparation	Scrapers	1	5.60	367	0.48
Site Preparation	Signal Boards	2	5.60	6	0.82
Site Preparation	Skid Steer Loaders	1	5.60	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Site Preparation	Sweepers/Scrubbers	1	5.60	64	0.46
Grading	Excavators	2	5.60	158	0.38
Grading	Crawler Tractors	1	5.60	212	0.43

Grading	Graders	2	5.60	187	0.41
Grading	Generator Sets	1	5.60	84	0.74
Grading	Off-Highway Tractors	2	5.60	124	0.44
Grading	Plate Compactors	2	5.60	8	0.43
Grading	Rubber Tired Dozers	0	5.60	247	0.40
Grading	Rollers	2	5.60	80	0.38
Grading	Rubber Tired Loaders	2	5.60	203	0.36
Grading	Scrapers	2	5.60	367	0.48
Grading	Signal Boards	2	5.60	6	0.82
Grading	Skid Steer Loaders	1	5.60	65	0.37
Grading	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Grading	Sweepers/Scrubbers	1	5.60	64	0.46
Building Construction	Cranes	2	3.20	231	0.29
Building Construction	Forklifts	0	3.20	89	0.20
Building Construction	Generator Sets	1	3.20	84	0.74
Building Construction	Aerial Lifts	4	3.20	63	0.31
Building Construction	Air Compressors	1	3.20	78	0.48
Building Construction	Tractors/Loaders/Backhoes	0	3.20	97	0.37
Building Construction	Welders	0	3.20	46	0.45
Paving	Cement and Mortar Mixers	0	5.60	9	0.56
Paving	Pavers	1	5.60	130	0.42
Paving	Paving Equipment	1	5.60	132	0.36
Building Construction	Rough Terrain Forklifts	2	3.20	100	0.40
Paving	Rollers	2	5.60	80	0.38
Building Construction	Sweepers/Scrubbers	1	3.20	64	0.46
Architectural Coating	Aerial Lifts	1	1.20	63	0.31
Paving	Plate Compactors	2	5.60	8	0.43
Paving	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Paving	Signal Boards	2	5.60	6	0.82
Architectural Coating	Air Compressors	0	1.20	78	0.48

Paving	Skid Steer Loaders	1	5.60	65	0.37
Paving	Sweepers/Scrubbers	1	5.60	64	0.46

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	11	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	20	50.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	14.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	10	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

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	lb/day										lb/day					
Fugitive Dust					1.1135	0.0000	1.1135	0.1202	0.0000	0.1202			0.0000			0.0000

Off-Road	2.7321	29.4498	20.1946	0.0390		1.3502	1.3502		1.2660	1.2660		3,799.8743	3,799.8743	1.0163		3,825.2814
Total	2.7321	29.4498	20.1946	0.0390	1.1135	1.3502	2.4637	0.1202	1.2660	1.3862		3,799.8743	3,799.8743	1.0163		3,825.2814

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	lb/day										lb/day					
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
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
Worker	0.1347	0.1101	1.1702	2.5000e-003	0.2300	1.9900e-003	0.2320	0.0610	1.8300e-003	0.0628		248.9852	248.9852	0.0115		249.2715
Total	0.1347	0.1101	1.1702	2.5000e-003	0.2300	1.9900e-003	0.2320	0.0610	1.8300e-003	0.0628		248.9852	248.9852	0.0115		249.2715

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	lb/day										lb/day					
Fugitive Dust					0.5011	0.0000	0.5011	0.0541	0.0000	0.0541			0.0000			0.0000
Off-Road	0.8093	16.1165	20.3179	0.0390		0.1116	0.1116		0.1116	0.1116	0.0000	3,294.7111	3,294.7111	0.9815		3,319.2483
Total	0.8093	16.1165	20.3179	0.0390	0.5011	0.1116	0.6126	0.0541	0.1116	0.1657	0.0000	3,294.7111	3,294.7111	0.9815		3,319.2483

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	lb/day										lb/day					
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
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
Worker	0.1347	0.1101	1.1702	2.5000e-003	0.2300	1.9900e-003	0.2320	0.0610	1.8300e-003	0.0628		248.9852	248.9852	0.0115		249.2715
Total	0.1347	0.1101	1.1702	2.5000e-003	0.2300	1.9900e-003	0.2320	0.0610	1.8300e-003	0.0628		248.9852	248.9852	0.0115		249.2715

3.3 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	lb/day										lb/day					
Fugitive Dust					2.5982	0.0000	2.5982	0.2806	0.0000	0.2806			0.0000			0.0000
Off-Road	4.9418	56.8843	35.2516	0.0717		2.4086	2.4086		2.2312	2.2312		7,033.8561	7,033.8561	2.0901		7,086.1097
Total	4.9418	56.8843	35.2516	0.0717	2.5982	2.4086	5.0068	0.2806	2.2312	2.5117		7,033.8561	7,033.8561	2.0901		7,086.1097

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
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Category	lb/day										lb/day				
	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
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
Worker	0.2405	0.1966	2.0896	4.4700e-003	0.4107	3.5500e-003	0.4143	0.1090	3.2800e-003	0.1122	444.6164	444.6164	0.0205	445.1277	
Total	0.2405	0.1966	2.0896	4.4700e-003	0.4107	3.5500e-003	0.4143	0.1090	3.2800e-003	0.1122	444.6164	444.6164	0.0205	445.1277	

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	lb/day										lb/day					
Fugitive Dust					1.1692	0.0000	1.1692	0.1263	0.0000	0.1263			0.0000			0.0000
Off-Road	1.6096	31.7051	39.5082	0.0717		0.2090	0.2090		0.2090	0.2090	0.0000	6,528.6930	6,528.6930	2.0554		6,580.0767
Total	1.6096	31.7051	39.5082	0.0717	1.1692	0.2090	1.3782	0.1263	0.2090	0.3352	0.0000	6,528.6930	6,528.6930	2.0554		6,580.0767

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	lb/day										lb/day					
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
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

Worker	0.2405	0.1966	2.0896	4.4700e-003	0.4107	3.5500e-003	0.4143	0.1090	3.2800e-003	0.1122		444.6164	444.6164	0.0205		445.1277
Total	0.2405	0.1966	2.0896	4.4700e-003	0.4107	3.5500e-003	0.4143	0.1090	3.2800e-003	0.1122		444.6164	444.6164	0.0205		445.1277

3.4 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	lb/day										lb/day					
Off-Road	1.0153	10.8477	8.6834	0.0153		0.5352	0.5352		0.5051	0.5051		1,494.5496	1,494.5496	0.3750		1,503.9242
Total	1.0153	10.8477	8.6834	0.0153		0.5352	0.5352		0.5051	0.5051		1,494.5496	1,494.5496	0.3750		1,503.9242

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	lb/day										lb/day					
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
Vendor	0.0275	0.6760	0.1724	1.4600e-003	0.0339	5.4200e-003	0.0393	9.7400e-003	5.1800e-003	0.0149		153.2123	153.2123	8.3900e-003		153.4221
Worker	0.0673	0.0550	0.5851	1.2500e-003	0.1150	9.9000e-004	0.1160	0.0305	9.2000e-004	0.0314		124.4926	124.4926	5.7300e-003		124.6358
Total	0.0948	0.7310	0.7575	2.7100e-003	0.1489	6.4100e-003	0.1553	0.0403	6.1000e-003	0.0463		277.7049	277.7049	0.0141		278.0578

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	lb/day										lb/day						
Off-Road	0.3036	6.5357	8.3219	0.0153		0.0581	0.0581		0.0581	0.0581	0.0000	1,245.3358	1,245.3358	0.3592			1,254.3157
Total	0.3036	6.5357	8.3219	0.0153		0.0581	0.0581		0.0581	0.0581	0.0000	1,245.3358	1,245.3358	0.3592			1,254.3157

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	lb/day										lb/day						
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
Vendor	0.0275	0.6760	0.1724	1.4600e-003	0.0339	5.4200e-003	0.0393	9.7400e-003	5.1800e-003	0.0149		153.2123	153.2123	8.3900e-003			153.4221
Worker	0.0673	0.0550	0.5851	1.2500e-003	0.1150	9.9000e-004	0.1160	0.0305	9.2000e-004	0.0314		124.4926	124.4926	5.7300e-003			124.6358
Total	0.0948	0.7310	0.7575	2.7100e-003	0.1489	6.4100e-003	0.1553	0.0403	6.1000e-003	0.0463		277.7049	277.7049	0.0141			278.0578

3.4 Building Construction - 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
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Category	lb/day										lb/day				
Off-Road	0.9288	9.9394	8.5259	0.0153		0.4705	0.4705		0.4439	0.4439	1,470.8399	1,470.8399	0.3722		1,480.1451
Total	0.9288	9.9394	8.5259	0.0153		0.4705	0.4705		0.4439	0.4439	1,470.8399	1,470.8399	0.3722		1,480.1451

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	lb/day										lb/day					
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
Vendor	0.0220	0.6182	0.1489	1.4500e-003	0.0339	3.4800e-003	0.0373	9.7400e-003	3.3300e-003	0.0131		152.5788	152.5788	7.7700e-003		152.7731
Worker	0.0612	0.0486	0.5211	1.2100e-003	0.1150	9.6000e-004	0.1160	0.0305	8.8000e-004	0.0314		120.7465	120.7465	4.9800e-003		120.8711
Total	0.0832	0.6668	0.6701	2.6600e-003	0.1489	4.4400e-003	0.1533	0.0403	4.2100e-003	0.0445		273.3253	273.3253	0.0128		273.6442

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	lb/day										lb/day					
Off-Road	0.3036	6.5357	8.3219	0.0153		0.0581	0.0581		0.0581	0.0581	0.0000	1,221.6261	1,221.6261	0.3582		1,230.5804
Total	0.3036	6.5357	8.3219	0.0153		0.0581	0.0581		0.0581	0.0581	0.0000	1,221.6261	1,221.6261	0.3582		1,230.5804

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	lb/day										lb/day						
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
Vendor	0.0220	0.6182	0.1489	1.4500e-003	0.0339	3.4800e-003	0.0373	9.7400e-003	3.3300e-003	0.0131		152.5788	152.5788	7.7700e-003			152.7731
Worker	0.0612	0.0486	0.5211	1.2100e-003	0.1150	9.6000e-004	0.1160	0.0305	8.8000e-004	0.0314		120.7465	120.7465	4.9800e-003			120.8711
Total	0.0832	0.6668	0.6701	2.6600e-003	0.1489	4.4400e-003	0.1533	0.0403	4.2100e-003	0.0445		273.3253	273.3253	0.0128			273.6442

3.5 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	lb/day										lb/day						
Archit. Coating	1.5082					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	6.1100e-003	0.1021	0.1639	2.5000e-004		2.5100e-003	2.5100e-003		2.3100e-003	2.3100e-003		24.9350	24.9350	7.8900e-003			25.1323
Total	1.5143	0.1021	0.1639	2.5000e-004		2.5100e-003	2.5100e-003		2.3100e-003	2.3100e-003		24.9350	24.9350	7.8900e-003			25.1323

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	lb/day										lb/day					
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
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
Worker	0.0433	0.0354	0.3761	8.1000e-004	0.2024	6.4000e-004	0.2031	0.0512	5.9000e-004	0.0517		80.0310	80.0310	3.6800e-003		80.1230
Total	0.0433	0.0354	0.3761	8.1000e-004	0.2024	6.4000e-004	0.2031	0.0512	5.9000e-004	0.0517		80.0310	80.0310	3.6800e-003		80.1230

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	lb/day										lb/day					
Archit. Coating	1.5082					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	6.2000e-003	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.9350	24.9350	7.8900e-003		25.1323
Total	1.5144	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.9350	24.9350	7.8900e-003		25.1323

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	lb/day										lb/day					

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
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
Worker	0.0433	0.0354	0.3761	8.1000e-004	0.2024	6.4000e-004	0.2031	0.0512	5.9000e-004	0.0517		80.0310	80.0310	3.6800e-003		80.1230
Total	0.0433	0.0354	0.3761	8.1000e-004	0.2024	6.4000e-004	0.2031	0.0512	5.9000e-004	0.0517		80.0310	80.0310	3.6800e-003		80.1230

3.5 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	lb/day										lb/day						
Archit. Coating	1.5082					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	5.9400e-003	0.0966	0.1641	2.5000e-004		2.1500e-003	2.1500e-003		1.9800e-003	1.9800e-003			24.3930	24.3930	7.8900e-003		24.5902
Total	1.5141	0.0966	0.1641	2.5000e-004		2.1500e-003	2.1500e-003		1.9800e-003	1.9800e-003			24.3930	24.3930	7.8900e-003		24.5902

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	lb/day										lb/day						
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	
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	
Worker	0.0393	0.0313	0.3350	7.8000e-004	0.2024	6.2000e-004	0.2031	0.0512	5.7000e-004	0.0517			77.6228	77.6228	3.2000e-003		77.7028

Total	0.0393	0.0313	0.3350	7.8000e-004	0.2024	6.2000e-004	0.2031	0.0512	5.7000e-004	0.0517		77.6228	77.6228	3.2000e-003		77.7028
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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	lb/day										lb/day						
Archit. Coating	1.5082					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	6.2000e-003	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.3930	24.3930	7.8900e-003			24.5902
Total	1.5144	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.3930	24.3930	7.8900e-003			24.5902

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	lb/day										lb/day						
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
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
Worker	0.0393	0.0313	0.3350	7.8000e-004	0.2024	6.2000e-004	0.2031	0.0512	5.7000e-004	0.0517		77.6228	77.6228	3.2000e-003			77.7028
Total	0.0393	0.0313	0.3350	7.8000e-004	0.2024	6.2000e-004	0.2031	0.0512	5.7000e-004	0.0517		77.6228	77.6228	3.2000e-003			77.7028

3.6 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	lb/day										lb/day					
Off-Road	1.0019	9.6075	9.5339	0.0147		0.5527	0.5527		0.5111	0.5111		1,380.3049	1,380.3049	0.4207		1,390.8213
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.5259	9.6075	9.5339	0.0147		0.5527	0.5527		0.5111	0.5111		1,380.3049	1,380.3049	0.4207		1,390.8213

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	lb/day										lb/day					
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
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
Worker	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561		215.6188	215.6188	8.9000e-003		215.8412
Total	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561		215.6188	215.6188	8.9000e-003		215.8412

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	lb/day										lb/day					

Off-Road	0.3206	6.7911	9.8856	0.0147		0.0618	0.0618		0.0618	0.0618	0.0000	1,311.2660	1,311.2660	0.4135		1,321.6032
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8446	6.7911	9.8856	0.0147		0.0618	0.0618		0.0618	0.0618	0.0000	1,311.2660	1,311.2660	0.4135		1,321.6032

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	lb/day										lb/day					
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
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
Worker	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561		215.6188	215.6188	8.9000e-003		215.8412
Total	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561		215.6188	215.6188	8.9000e-003		215.8412

UCSC Hagar Student Housing - Monterey Bay Unified APCD Air District, Annual

UCSC Hagar Student Housing
Monterey Bay Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	158.00	Space	1.42	63,200.00	0
Apartments Mid Rise	140.00	Dwelling Unit	3.68	138,100.00	400

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Emission Rate

Land Use - From project description/Land Use data from Clients, added community center sf to residential. Estiamted acreage as this does not include childrens

Construction Phase - Adjusted schedule to project

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Trips and VMT - CalEEMod Default Truck Trips

Demolition -

Grading - Haul Excess Soil Early on in the Project. 17,000 Yards

Construction Off-road Equipment Mitigation - Water 2x 15mph, Tier 3 DPF 3, Electric signal board & generator

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

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	0.6894	2.7474	2.0649	5.1700e-003	0.1812	0.1001	0.2813	0.0394	0.0936	0.1330	0.0000	470.2136	470.2136	0.0789	0.0000	472.1849
2020	0.5221	0.5367	0.5835	1.3600e-003	0.0527	0.0200	0.0727	0.0142	0.0188	0.0330	0.0000	122.1389	122.1389	0.0171	0.0000	122.5661
Maximum	0.6894	2.7474	2.0649	5.1700e-003	0.1812	0.1001	0.2813	0.0394	0.0936	0.1330	0.0000	470.2136	470.2136	0.0789	0.0000	472.1849

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	0.5594	1.8598	2.1268	5.1700e-003	0.1488	0.0138	0.1626	0.0359	0.0135	0.0494	0.0000	442.1393	442.1393	0.0770	0.0000	444.0646
2020	0.4972	0.4050	0.5812	1.3600e-003	0.0527	3.4200e-003	0.0561	0.0142	3.3600e-003	0.0175	0.0000	113.7303	113.7303	0.0166	0.0000	114.1455

Maximum	0.5594	1.8598	2.1268	5.1700e-003	0.1488	0.0138	0.1626	0.0359	0.0135	0.0494	0.0000	442.1393	442.1393	0.0770	0.0000	444.0646
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	12.79	31.04	-2.25	0.00	13.83	85.69	38.20	6.59	84.97	59.68	0.00	6.16	6.16	2.42	0.00	6.14

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2019	6-30-2019	1.8788	1.1990
2	7-1-2019	9-30-2019	0.6501	0.4853
3	10-1-2019	12-31-2019	0.8820	0.7181
4	1-1-2020	3-31-2020	0.8239	0.6944
5	4-1-2020	6-30-2020	0.2275	0.2021
		Highest	1.8788	1.1990

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	4/1/2019	4/12/2019	5	10	2 weeks
2	Grading	Grading	4/13/2019	6/7/2019	5	40	8 weeks
3	Building Construction	Building Construction	6/8/2019	4/10/2020	5	220	44 weeks - overlap
4	Architectural Coating	Architectural Coating	9/1/2019	5/8/2020	5	180	36 weeks - overlap
5	Paving	Paving	4/11/2020	4/17/2020	5	5	1 week - overlap

Acres of Grading (Site Preparation Phase): 10.5

Acres of Grading (Grading Phase): 98

Acres of Paving: 1.42

Residential Indoor: 279,653; Residential Outdoor: 93,218; 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
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Site Preparation	Air Compressors	1	5.60	78	0.48
Site Preparation	Concrete/Industrial Saws	1	5.60	81	0.73
Site Preparation	Crawler Tractors	1	5.60	212	0.43
Site Preparation	Excavators	1	5.60	158	0.38
Site Preparation	Generator Sets	1	5.60	84	0.74
Site Preparation	Off-Highway Tractors	1	5.60	124	0.44
Site Preparation	Rough Terrain Forklifts	1	5.60	100	0.40
Site Preparation	Rubber Tired Dozers	0	5.60	247	0.40
Site Preparation	Rubber Tired Loaders	1	5.60	203	0.36
Site Preparation	Scrapers	1	5.60	367	0.48
Site Preparation	Signal Boards	2	5.60	6	0.82
Site Preparation	Skid Steer Loaders	1	5.60	65	0.37
Site Preparation	Sweepers/Scrubbers	1	5.60	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Grading	Crawler Tractors	1	5.60	212	0.43
Grading	Excavators	2	5.60	158	0.38
Grading	Generator Sets	1	5.60	84	0.74
Grading	Graders	2	5.60	187	0.41
Grading	Off-Highway Tractors	2	5.60	124	0.44
Grading	Plate Compactors	2	5.60	8	0.43
Grading	Rollers	2	5.60	80	0.38
Grading	Rubber Tired Dozers	0	5.60	247	0.40
Grading	Rubber Tired Loaders	2	5.60	203	0.36
Grading	Scrapers	2	5.60	367	0.48
Grading	Signal Boards	2	5.60	6	0.82
Grading	Skid Steer Loaders	1	5.60	65	0.37
Grading	Sweepers/Scrubbers	1	5.60	64	0.46
Grading	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Building Construction	Aerial Lifts	4	3.20	63	0.31
Building Construction	Air Compressors	1	3.20	78	0.48

Building Construction	Cranes	2	3.20	231	0.29
Building Construction	Forklifts	0	3.20	89	0.20
Building Construction	Generator Sets	1	3.20	84	0.74
Building Construction	Rough Terrain Forklifts	2	3.20	100	0.40
Building Construction	Sweepers/Scrubbers	1	3.20	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	3.20	97	0.37
Building Construction	Welders	0	3.20	46	0.45
Architectural Coating	Aerial Lifts	1	1.20	63	0.31
Architectural Coating	Air Compressors	0	1.20	78	0.48
Paving	Pavers	1	5.60	130	0.42
Paving	Paving Equipment	1	5.60	132	0.36
Paving	Plate Compactors	2	5.60	8	0.43
Paving	Rollers	2	5.60	80	0.38
Paving	Rubber Tired Loaders	1	5.60	203	0.36
Paving	Signal Boards	2	5.60	6	0.82
Paving	Skid Steer Loaders	1	5.60	65	0.37
Paving	Sweepers/Scrubbers	1	5.60	64	0.46

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	13	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	20	50.00	0.00	2,125.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	127.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	11	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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					5.5700e-003	0.0000	5.5700e-003	6.0000e-004	0.0000	6.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0158	0.1662	0.1220	2.3000e-004		7.8400e-003	7.8400e-003		7.4000e-003	7.4000e-003	0.0000	20.1909	20.1909	5.0800e-003	0.0000	20.3179
Total	0.0158	0.1662	0.1220	2.3000e-004	5.5700e-003	7.8400e-003	0.0134	6.0000e-004	7.4000e-003	8.0000e-003	0.0000	20.1909	20.1909	5.0800e-003	0.0000	20.3179

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9000e-004	7.4000e-004	6.6100e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2568	1.2568	6.0000e-005	0.0000	1.2583
Total	7.9000e-004	7.4000e-004	6.6100e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2568	1.2568	6.0000e-005	0.0000	1.2583

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					2.5100e-003	0.0000	2.5100e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7800e-003	0.0973	0.1242	2.3000e-004		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	17.8995	17.8995	4.9200e-003	0.0000	18.0226
Total	4.7800e-003	0.0973	0.1242	2.3000e-004	2.5100e-003	7.3000e-004	3.2400e-003	2.7000e-004	7.3000e-004	1.0000e-003	0.0000	17.8995	17.8995	4.9200e-003	0.0000	18.0226

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9000e-004	7.4000e-004	6.6100e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2568	1.2568	6.0000e-005	0.0000	1.2583
Total	7.9000e-004	7.4000e-004	6.6100e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2568	1.2568	6.0000e-005	0.0000	1.2583

3.3 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
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Category	tons/yr										MT/yr					
Fugitive Dust					0.0533	0.0000	0.0533	5.8100e-003	0.0000	5.8100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0989	1.1376	0.7057	1.4300e-003		0.0482	0.0482		0.0447	0.0447	0.0000	127.6239	127.6239	0.0379	0.0000	128.5720
Total	0.0989	1.1376	0.7057	1.4300e-003	0.0533	0.0482	0.1015	5.8100e-003	0.0447	0.0505	0.0000	127.6239	127.6239	0.0379	0.0000	128.5720

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	0.0100	0.3374	0.0597	8.7000e-004	0.0181	1.6700e-003	0.0197	4.9600e-003	1.6000e-003	6.5600e-003	0.0000	83.0007	83.0007	3.4700e-003	0.0000	83.0874
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	4.7800e-003	4.4900e-003	0.0400	8.0000e-005	7.9600e-003	7.0000e-005	8.0300e-003	2.1200e-003	7.0000e-005	2.1800e-003	0.0000	7.6172	7.6172	3.6000e-004	0.0000	7.6261
Total	0.0148	0.3419	0.0997	9.5000e-004	0.0260	1.7400e-003	0.0278	7.0800e-003	1.6700e-003	8.7400e-003	0.0000	90.6179	90.6179	3.8300e-003	0.0000	90.7134

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					0.0240	0.0000	0.0240	2.6100e-003	0.0000	2.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0322	0.6342	0.7908	1.4300e-003		4.1900e-003	4.1900e-003		4.1900e-003	4.1900e-003	0.0000	118.4582	118.4582	0.0373	0.0000	119.3905

Total	0.0322	0.6342	0.7908	1.4300e-003	0.0240	4.1900e-003	0.0282	2.6100e-003	4.1900e-003	6.8000e-003	0.0000	118.4582	118.4582	0.0373	0.0000	119.3905
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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	0.0100	0.3374	0.0597	8.7000e-004	0.0181	1.6700e-003	0.0197	4.9600e-003	1.6000e-003	6.5600e-003	0.0000	83.0007	83.0007	3.4700e-003	0.0000	83.0874
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	4.7800e-003	4.4900e-003	0.0400	8.0000e-005	7.9600e-003	7.0000e-005	8.0300e-003	2.1200e-003	7.0000e-005	2.1800e-003	0.0000	7.6172	7.6172	3.6000e-004	0.0000	7.6261
Total	0.0148	0.3419	0.0997	9.5000e-004	0.0260	1.7400e-003	0.0278	7.0800e-003	1.6700e-003	8.7400e-003	0.0000	90.6179	90.6179	3.8300e-003	0.0000	90.7134

3.4 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	0.0747	0.7979	0.6389	1.1200e-003		0.0394	0.0394		0.0372	0.0372	0.0000	99.7299	99.7299	0.0250	0.0000	100.3556
Total	0.0747	0.7979	0.6389	1.1200e-003		0.0394	0.0394		0.0372	0.0372	0.0000	99.7299	99.7299	0.0250	0.0000	100.3556

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	0.0103	0.2518	0.0677	5.3000e-004	0.0121	2.0100e-003	0.0141	3.5000e-003	1.9200e-003	5.4200e-003	0.0000	50.4241	50.4241	2.9300e-003	0.0000	50.4973
Worker	0.0447	0.0419	0.3737	7.9000e-004	0.0743	6.6000e-004	0.0749	0.0198	6.1000e-004	0.0204	0.0000	71.1024	71.1024	3.3200e-003	0.0000	71.1853
Total	0.0550	0.2937	0.4413	1.3200e-003	0.0864	2.6700e-003	0.0891	0.0233	2.5300e-003	0.0258	0.0000	121.5265	121.5265	6.2500e-003	0.0000	121.6826

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	0.0223	0.4809	0.6123	1.1200e-003		4.2800e-003	4.2800e-003		4.2800e-003	4.2800e-003	0.0000	83.1127	83.1127	0.0240	0.0000	83.7121
Total	0.0223	0.4809	0.6123	1.1200e-003		4.2800e-003	4.2800e-003		4.2800e-003	4.2800e-003	0.0000	83.1127	83.1127	0.0240	0.0000	83.7121

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	0.0103	0.2518	0.0677	5.3000e-004	0.0121	2.0100e-003	0.0141	3.5000e-003	1.9200e-003	5.4200e-003	0.0000	50.4241	50.4241	2.9300e-003	0.0000	50.4973
Worker	0.0447	0.0419	0.3737	7.9000e-004	0.0743	6.6000e-004	0.0749	0.0198	6.1000e-004	0.0204	0.0000	71.1024	71.1024	3.3200e-003	0.0000	71.1853
Total	0.0550	0.2937	0.4413	1.3200e-003	0.0864	2.6700e-003	0.0891	0.0233	2.5300e-003	0.0258	0.0000	121.5265	121.5265	6.2500e-003	0.0000	121.6826

3.4 Building Construction - 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	0.0339	0.3631	0.3115	5.6000e-004		0.0172	0.0172		0.0162	0.0162	0.0000	48.7398	48.7398	0.0123	0.0000	49.0482
Total	0.0339	0.3631	0.3115	5.6000e-004		0.0172	0.0172		0.0162	0.0162	0.0000	48.7398	48.7398	0.0123	0.0000	49.0482

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	4.1200e-003	0.1142	0.0291	2.6000e-004	6.0200e-003	6.4000e-004	6.6600e-003	1.7400e-003	6.1000e-004	2.3500e-003	0.0000	24.9297	24.9297	1.3500e-003	0.0000	24.9634
Worker	0.0201	0.0184	0.1648	3.8000e-004	0.0369	3.2000e-004	0.0372	9.8100e-003	2.9000e-004	0.0101	0.0000	34.2442	34.2442	1.4300e-003	0.0000	34.2799

Total	0.0242	0.1325	0.1939	6.4000e-004	0.0429	9.6000e-004	0.0439	0.0116	9.0000e-004	0.0125	0.0000	59.1739	59.1739	2.7800e-003	0.0000	59.2433
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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	0.0111	0.2388	0.3041	5.6000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	40.4878	40.4878	0.0119	0.0000	40.7846
Total	0.0111	0.2388	0.3041	5.6000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	40.4878	40.4878	0.0119	0.0000	40.7846

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	4.1200e-003	0.1142	0.0291	2.6000e-004	6.0200e-003	6.4000e-004	6.6600e-003	1.7400e-003	6.1000e-004	2.3500e-003	0.0000	24.9297	24.9297	1.3500e-003	0.0000	24.9634
Worker	0.0201	0.0184	0.1648	3.8000e-004	0.0369	3.2000e-004	0.0372	9.8100e-003	2.9000e-004	0.0101	0.0000	34.2442	34.2442	1.4300e-003	0.0000	34.2799
Total	0.0242	0.1325	0.1939	6.4000e-004	0.0429	9.6000e-004	0.0439	0.0116	9.0000e-004	0.0125	0.0000	59.1739	59.1739	2.7800e-003	0.0000	59.2433

3.5 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	0.4240					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	4.4400e-003	7.1300e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.9840	0.9840	3.1000e-004	0.0000	0.9918
Total	0.4243	4.4400e-003	7.1300e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.9840	0.9840	3.1000e-004	0.0000	0.9918

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	5.2000e-003	4.8800e-003	0.0435	9.0000e-005	8.6500e-003	8.0000e-005	8.7300e-003	2.3000e-003	7.0000e-005	2.3700e-003	0.0000	8.2837	8.2837	3.9000e-004	0.0000	8.2933
Total	5.2000e-003	4.8800e-003	0.0435	9.0000e-005	8.6500e-003	8.0000e-005	8.7300e-003	2.3000e-003	7.0000e-005	2.3700e-003	0.0000	8.2837	8.2837	3.9000e-004	0.0000	8.2933

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	0.4240					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	6.1600e-003	8.3200e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9840	0.9840	3.1000e-004	0.0000	0.9918
Total	0.4243	6.1600e-003	8.3200e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9840	0.9840	3.1000e-004	0.0000	0.9918

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	5.2000e-003	4.8800e-003	0.0435	9.0000e-005	8.6500e-003	8.0000e-005	8.7300e-003	2.3000e-003	7.0000e-005	2.3700e-003	0.0000	8.2837	8.2837	3.9000e-004	0.0000	8.2933
Total	5.2000e-003	4.8800e-003	0.0435	9.0000e-005	8.6500e-003	8.0000e-005	8.7300e-003	2.3000e-003	7.0000e-005	2.3700e-003	0.0000	8.2837	8.2837	3.9000e-004	0.0000	8.2933

3.5 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	0.4533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	4.4900e-003	7.6300e-003	1.0000e-005		1.0000e-004	1.0000e-004		9.0000e-005	9.0000e-005	0.0000	1.0290	1.0290	3.3000e-004	0.0000	1.0373
Total	0.4536	4.4900e-003	7.6300e-003	1.0000e-005		1.0000e-004	1.0000e-004		9.0000e-005	9.0000e-005	0.0000	1.0290	1.0290	3.3000e-004	0.0000	1.0373

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	5.0500e-003	4.6100e-003	0.0413	1.0000e-004	9.2500e-003	8.0000e-005	9.3300e-003	2.4600e-003	7.0000e-005	2.5300e-003	0.0000	8.5878	8.5878	3.6000e-004	0.0000	8.5968
Total	5.0500e-003	4.6100e-003	0.0413	1.0000e-004	9.2500e-003	8.0000e-005	9.3300e-003	2.4600e-003	7.0000e-005	2.5300e-003	0.0000	8.5878	8.5878	3.6000e-004	0.0000	8.5968

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	0.4533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	6.5800e-003	8.8900e-003	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0290	1.0290	3.3000e-004	0.0000	1.0373
Total	0.4536	6.5800e-003	8.8900e-003	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0290	1.0290	3.3000e-004	0.0000	1.0373

Mitigated Construction Off-Site

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.8000e-004	2.4900e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5171	0.5171	2.0000e-005	0.0000	0.5177
Total	3.0000e-004	2.8000e-004	2.4900e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5171	0.5171	2.0000e-005	0.0000	0.5177

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	1.0700e-003	0.0222	0.0306	5.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	3.9346	3.9346	1.2500e-003	0.0000	3.9658
Paving	1.8600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.9300e-003	0.0222	0.0306	5.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	3.9346	3.9346	1.2500e-003	0.0000	3.9658

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.8000e-004	2.4900e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5171	0.5171	2.0000e-005	0.0000	0.5177
Total	3.0000e-004	2.8000e-004	2.4900e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5171	0.5171	2.0000e-005	0.0000	0.5177

UCSC Hagar Student Housing - Monterey Bay Unified APCD Air District, Summer

UCSC Hagar Student Housing
Monterey Bay Unified APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	158.00	Space	1.42	63,200.00	0
Apartments Mid Rise	140.00	Dwelling Unit	3.68	138,100.00	400

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			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 Emission Rate

Land Use - From project description/Land Use data from Clients, added community center sf to residential. Estiamted acreage as this does not include childrens

Construction Phase - Adjusted schedule to project

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Trips and VMT - CalEEMod Default Truck Trips

Demolition -

Grading - Haul Excess Soil Early on in the Project. 17,000 Yards

Construction Off-road Equipment Mitigation - Water 2x 15mph, Tier 3 DPF 3, Electric signal board & generator

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	7.00	3.20
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	5.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2019	11.6385	73.6228	40.2310	0.1199	4.0031	2.4971	6.5002	0.6539	2.3157	2.9696	0.0000	12,093.9253	12,093.9253	2.2942	0.0000	12,151.2802
2020	11.9931	13.6628	15.1013	0.0360	1.4179	0.6609	1.9189	0.3799	0.6107	0.8525	0.0000	3,570.2072	3,570.2072	0.5844	0.0000	3,582.0427
Maximum	11.9931	73.6228	40.2310	0.1199	4.0031	2.4971	6.5002	0.6539	2.3157	2.9696	0.0000	12,093.9253	12,093.9253	2.2942	0.0000	12,151.2802

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	lb/day										lb/day					
2019	10.9263	48.4552	44.4869	0.1199	2.5379	0.2956	2.8335	0.4941	0.2918	0.7859	0.0000	11,588.7622	11,588.7622	2.2594	0.0000	11,645.2472
2020	11.1585	10.3026	14.9245	0.0360	1.4179	0.0875	1.5054	0.3799	0.0859	0.4658	0.0000	3,320.9934	3,320.9934	0.5772	0.0000	3,332.4780

Maximum	11.1585	48.4552	44.4869	0.1199	2.5379	0.2956	2.8335	0.4941	0.2918	0.7859	0.0000	11,588.76 22	11,588.762 2	2.2594	0.0000	11,645.24 72
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	6.55	32.68	-7.37	0.00	27.03	87.87	48.46	15.46	87.09	67.25	0.00	4.82	4.82	1.46	0.00	4.80

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	4/1/2019	4/12/2019	5	10	2 weeks
2	Grading	Grading	4/13/2019	6/7/2019	5	40	8 weeks
3	Building Construction	Building Construction	6/8/2019	4/10/2020	5	220	44 weeks - overlap
4	Architectural Coating	Architectural Coating	9/1/2019	5/8/2020	5	180	36 weeks - overlap
5	Paving	Paving	4/11/2020	4/17/2020	5	5	1 week - overlap

Acres of Grading (Site Preparation Phase): 10.5

Acres of Grading (Grading Phase): 98

Acres of Paving: 1.42

Residential Indoor: 279,653; Residential Outdoor: 93,218; 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
Site Preparation	Air Compressors	1	5.60	78	0.48
Site Preparation	Concrete/Industrial Saws	1	5.60	81	0.73
Site Preparation	Crawler Tractors	1	5.60	212	0.43
Site Preparation	Excavators	1	5.60	158	0.38
Site Preparation	Generator Sets	1	5.60	84	0.74
Site Preparation	Off-Highway Tractors	1	5.60	124	0.44
Site Preparation	Rough Terrain Forklifts	1	5.60	100	0.40

Site Preparation	Rubber Tired Dozers	0	5.60	247	0.40
Site Preparation	Rubber Tired Loaders	1	5.60	203	0.36
Site Preparation	Scrapers	1	5.60	367	0.48
Site Preparation	Signal Boards	2	5.60	6	0.82
Site Preparation	Skid Steer Loaders	1	5.60	65	0.37
Site Preparation	Sweepers/Scrubbers	1	5.60	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Grading	Crawler Tractors	1	5.60	212	0.43
Grading	Excavators	2	5.60	158	0.38
Grading	Generator Sets	1	5.60	84	0.74
Grading	Graders	2	5.60	187	0.41
Grading	Off-Highway Tractors	2	5.60	124	0.44
Grading	Plate Compactors	2	5.60	8	0.43
Grading	Rollers	2	5.60	80	0.38
Grading	Rubber Tired Dozers	0	5.60	247	0.40
Grading	Rubber Tired Loaders	2	5.60	203	0.36
Grading	Scrapers	2	5.60	367	0.48
Grading	Signal Boards	2	5.60	6	0.82
Grading	Skid Steer Loaders	1	5.60	65	0.37
Grading	Sweepers/Scrubbers	1	5.60	64	0.46
Grading	Tractors/Loaders/Backhoes	0	5.60	97	0.37
Building Construction	Aerial Lifts	4	3.20	63	0.31
Building Construction	Air Compressors	1	3.20	78	0.48
Building Construction	Cranes	2	3.20	231	0.29
Building Construction	Forklifts	0	3.20	89	0.20
Building Construction	Generator Sets	1	3.20	84	0.74
Building Construction	Rough Terrain Forklifts	2	3.20	100	0.40
Building Construction	Sweepers/Scrubbers	1	3.20	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	3.20	97	0.37
Building Construction	Welders	0	3.20	46	0.45

Architectural Coating	Aerial Lifts	1	1.20	63	0.31
Architectural Coating	Air Compressors	0	1.20	78	0.48
Paving	Pavers	1	5.60	130	0.42
Paving	Paving Equipment	1	5.60	132	0.36
Paving	Plate Compactors	2	5.60	8	0.43
Paving	Rollers	2	5.60	80	0.38
Paving	Rubber Tired Loaders	1	5.60	203	0.36
Paving	Signal Boards	2	5.60	6	0.82
Paving	Skid Steer Loaders	1	5.60	65	0.37
Paving	Sweepers/Scrubbers	1	5.60	64	0.46

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	13	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	20	50.00	0.00	2,125.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	127.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	11	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

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	lb/day										lb/day					
Fugitive Dust					1.1135	0.0000	1.1135	0.1202	0.0000	0.1202			0.0000			0.0000
Off-Road	3.1545	33.2428	24.3943	0.0457		1.5689	1.5689		1.4800	1.4800		4,451.3264	4,451.3264	1.1203		4,479.3348
Total	3.1545	33.2428	24.3943	0.0457	1.1135	1.5689	2.6824	0.1202	1.4800	1.6002		4,451.3264	4,451.3264	1.1203		4,479.3348

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	lb/day										lb/day					
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
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
Worker	0.1587	0.1297	1.3791	2.9500e-003	0.2711	2.3400e-003	0.2734	0.0719	2.1600e-003	0.0741		293.4468	293.4468	0.0135		293.7843
Total	0.1587	0.1297	1.3791	2.9500e-003	0.2711	2.3400e-003	0.2734	0.0719	2.1600e-003	0.0741		293.4468	293.4468	0.0135		293.7843

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	lb/day										lb/day					

Fugitive Dust					0.5011	0.0000	0.5011	0.0541	0.0000	0.0541			0.0000			0.0000
Off-Road	0.9557	19.4616	24.8434	0.0457		0.1468	0.1468		0.1468	0.1468	0.0000	3,946.1632	3,946.1632	1.0855		3,973.3018
Total	0.9557	19.4616	24.8434	0.0457	0.5011	0.1468	0.6479	0.0541	0.1468	0.2009	0.0000	3,946.1632	3,946.1632	1.0855		3,973.3018

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	lb/day										lb/day					
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
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
Worker	0.1587	0.1297	1.3791	2.9500e-003	0.2711	2.3400e-003	0.2734	0.0719	2.1600e-003	0.0741		293.4468	293.4468	0.0135		293.7843
Total	0.1587	0.1297	1.3791	2.9500e-003	0.2711	2.3400e-003	0.2734	0.0719	2.1600e-003	0.0741		293.4468	293.4468	0.0135		293.7843

3.3 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	lb/day										lb/day					
Fugitive Dust					2.6640	0.0000	2.6640	0.2905	0.0000	0.2905			0.0000			0.0000
Off-Road	4.9429	56.8794	35.2838	0.0717		2.4108	2.4108		2.2332	2.2332		7,034.0628	7,034.0628	2.0902		7,086.3180
Total	4.9429	56.8794	35.2838	0.0717	2.6640	2.4108	5.0747	0.2905	2.2332	2.5237		7,034.0628	7,034.0628	2.0902		7,086.3180

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	lb/day										lb/day					
Hauling	0.4951	16.5469	2.8576	0.0437	0.9284	0.0828	1.0112	0.2544	0.0792	0.3337		4,615.2461	4,615.2461	0.1835		4,619.8345
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
Worker	0.2405	0.1966	2.0896	4.4700e-003	0.4107	3.5500e-003	0.4143	0.1090	3.2800e-003	0.1122		444.6164	444.6164	0.0205		445.1277
Total	0.7356	16.7434	4.9472	0.0482	1.3391	0.0864	1.4255	0.3634	0.0825	0.4459		5,059.8625	5,059.8625	0.2040		5,064.9622

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	lb/day										lb/day					
Fugitive Dust					1.1988	0.0000	1.1988	0.1307	0.0000	0.1307			0.0000			0.0000
Off-Road	1.6096	31.7118	39.5397	0.0717		0.2093	0.2093		0.2093	0.2093	0.0000	6,528.8997	6,528.8997	2.0554		6,580.2850
Total	1.6096	31.7118	39.5397	0.0717	1.1988	0.2093	1.4081	0.1307	0.2093	0.3400	0.0000	6,528.8997	6,528.8997	2.0554		6,580.2850

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	lb/day										lb/day					
Hauling	0.4951	16.5469	2.8576	0.0437	0.9284	0.0828	1.0112	0.2544	0.0792	0.3337		4,615.2461	4,615.2461	0.1835		4,619.8345
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
Worker	0.2405	0.1966	2.0896	4.4700e-003	0.4107	3.5500e-003	0.4143	0.1090	3.2800e-003	0.1122		444.6164	444.6164	0.0205		445.1277
Total	0.7356	16.7434	4.9472	0.0482	1.3391	0.0864	1.4255	0.3634	0.0825	0.4459		5,059.8625	5,059.8625	0.2040		5,064.9622

3.4 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	lb/day										lb/day					
Off-Road	1.0162	10.8561	8.6920	0.0153		0.5358	0.5358		0.5057	0.5057		1,495.6929	1,495.6929	0.3754		1,505.0766
Total	1.0162	10.8561	8.6920	0.0153		0.5358	0.5358		0.5057	0.5057		1,495.6929	1,495.6929	0.3754		1,505.0766

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	lb/day										lb/day					
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

Vendor	0.1373	3.3797	0.8619	7.3000e-003	0.1693	0.0271	0.1963	0.0487	0.0259	0.0746		766.0614	766.0614	0.0420		767.1104
Worker	0.6108	0.4993	5.3076	0.0114	1.0433	9.0100e-003	1.0523	0.2767	8.3200e-003	0.2851		1,129.3257	1,129.3257	0.0519		1,130.6243
Total	0.7481	3.8790	6.1695	0.0187	1.2125	0.0361	1.2486	0.3255	0.0342	0.3597		1,895.3872	1,895.3872	0.0939		1,897.7346

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	lb/day										lb/day					
Off-Road	0.3039	6.5422	8.3306	0.0153		0.0582	0.0582		0.0582	0.0582	0.0000	1,246.4791	1,246.4791	0.3596		1,255.4681
Total	0.3039	6.5422	8.3306	0.0153		0.0582	0.0582		0.0582	0.0582	0.0000	1,246.4791	1,246.4791	0.3596		1,255.4681

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	lb/day										lb/day					
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
Vendor	0.1373	3.3797	0.8619	7.3000e-003	0.1693	0.0271	0.1963	0.0487	0.0259	0.0746		766.0614	766.0614	0.0420		767.1104
Worker	0.6108	0.4993	5.3076	0.0114	1.0433	9.0100e-003	1.0523	0.2767	8.3200e-003	0.2851		1,129.3257	1,129.3257	0.0519		1,130.6243
Total	0.7481	3.8790	6.1695	0.0187	1.2125	0.0361	1.2486	0.3255	0.0342	0.3597		1,895.3872	1,895.3872	0.0939		1,897.7346

3.4 Building Construction - 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	lb/day										lb/day					
Off-Road	0.9296	9.9474	8.5345	0.0153		0.4711	0.4711		0.4444	0.4444		1,471.9579	1,471.9579	0.3726		1,481.2721
Total	0.9296	9.9474	8.5345	0.0153		0.4711	0.4711		0.4444	0.4444		1,471.9579	1,471.9579	0.3726		1,481.2721

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	lb/day										lb/day					
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
Vendor	0.1102	3.0911	0.7447	7.2700e-003	0.1693	0.0174	0.1866	0.0487	0.0166	0.0654		762.8939	762.8939	0.0389		763.8657
Worker	0.5547	0.4410	4.7274	0.0110	1.0433	8.6800e-003	1.0520	0.2767	8.0100e-003	0.2847		1,095.3436	1,095.3436	0.0452		1,096.4735
Total	0.6649	3.5321	5.4721	0.0183	1.2125	0.0261	1.2386	0.3255	0.0246	0.3501		1,858.2375	1,858.2375	0.0841		1,860.3392

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	lb/day										lb/day					
Off-Road	0.3039	6.5422	8.3306	0.0153		0.0582	0.0582		0.0582	0.0582	0.0000	1,222.7441	1,222.7441	0.3585		1,231.7074
Total	0.3039	6.5422	8.3306	0.0153		0.0582	0.0582		0.0582	0.0582	0.0000	1,222.7441	1,222.7441	0.3585		1,231.7074

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	lb/day										lb/day					
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
Vendor	0.1102	3.0911	0.7447	7.2700e-003	0.1693	0.0174	0.1866	0.0487	0.0166	0.0654		762.8939	762.8939	0.0389		763.8657
Worker	0.5547	0.4410	4.7274	0.0110	1.0433	8.6800e-003	1.0520	0.2767	8.0100e-003	0.2847		1,095.3436	1,095.3436	0.0452		1,096.4735
Total	0.6649	3.5321	5.4721	0.0183	1.2125	0.0261	1.2386	0.3255	0.0246	0.3501		1,858.2375	1,858.2375	0.0841		1,860.3392

3.5 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	lb/day										lb/day					
Archit. Coating	9.7479					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	6.1100e-003	0.1021	0.1639	2.5000e-004		2.5100e-003	2.5100e-003		2.3100e-003	2.3100e-003		24.9350	24.9350	7.8900e-003		25.1323
Total	9.7540	0.1021	0.1639	2.5000e-004		2.5100e-003	2.5100e-003		2.3100e-003	2.3100e-003		24.9350	24.9350	7.8900e-003		25.1323

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	lb/day										lb/day					
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
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
Worker	0.1202	0.0983	1.0448	2.2400e-003	0.2054	1.7700e-003	0.2071	0.0545	1.6400e-003	0.0561		222.3082	222.3082	0.0102		222.5638
Total	0.1202	0.0983	1.0448	2.2400e-003	0.2054	1.7700e-003	0.2071	0.0545	1.6400e-003	0.0561		222.3082	222.3082	0.0102		222.5638

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	lb/day										lb/day					
Archit. Coating	9.7479					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	6.2000e-003	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.9350	24.9350	7.8900e-003		25.1323
Total	9.7541	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.9350	24.9350	7.8900e-003		25.1323

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	lb/day										lb/day						
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
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
Worker	0.1202	0.0983	1.0448	2.2400e-003	0.2054	1.7700e-003	0.2071	0.0545	1.6400e-003	0.0561		222.3082	222.3082	0.0102			222.5638
Total	0.1202	0.0983	1.0448	2.2400e-003	0.2054	1.7700e-003	0.2071	0.0545	1.6400e-003	0.0561		222.3082	222.3082	0.0102			222.5638

3.5 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	lb/day										lb/day						
Archit. Coating	9.7479					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	5.9400e-003	0.0966	0.1641	2.5000e-004		2.1500e-003	2.1500e-003		1.9800e-003	1.9800e-003		24.3930	24.3930	7.8900e-003			24.5902
Total	9.7538	0.0966	0.1641	2.5000e-004		2.1500e-003	2.1500e-003		1.9800e-003	1.9800e-003		24.3930	24.3930	7.8900e-003			24.5902

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
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Category	lb/day										lb/day				
	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
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	
Worker	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561	215.6188	215.6188	8.9000e-003	215.8412	
Total	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561	215.6188	215.6188	8.9000e-003	215.8412	

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	lb/day										lb/day					
Archit. Coating	9.7479					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	6.2000e-003	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.3930	24.3930	7.8900e-003		24.5902
Total	9.7541	0.1416	0.1912	2.5000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	24.3930	24.3930	7.8900e-003		24.5902

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	lb/day										lb/day					
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
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

Worker	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561		215.6188	215.6188	8.9000e-003		215.8412
Total	0.1092	0.0868	0.9306	2.1700e-003	0.2054	1.7100e-003	0.2071	0.0545	1.5800e-003	0.0561		215.6188	215.6188	8.9000e-003		215.8412

3.6 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	lb/day										lb/day					
Off-Road	1.2637	12.6942	10.6787	0.0191		0.6551	0.6551		0.6054	0.6054		1,803.9169	1,803.9169	0.5577		1,817.8584
Paving	0.7441					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0078	12.6942	10.6787	0.0191		0.6551	0.6551		0.6054	0.6054		1,803.9169	1,803.9169	0.5577		1,817.8584

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	lb/day										lb/day					
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
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
Worker	0.1223	0.0972	1.0423	2.4300e-003	0.2300	1.9100e-003	0.2319	0.0610	1.7700e-003	0.0628		241.4931	241.4931	9.9600e-003		241.7422
Total	0.1223	0.0972	1.0423	2.4300e-003	0.2300	1.9100e-003	0.2319	0.0610	1.7700e-003	0.0628		241.4931	241.4931	9.9600e-003		241.7422

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	lb/day										lb/day					
Off-Road	0.4289	8.8843	12.2314	0.0191		0.0737	0.0737		0.0737	0.0737	0.0000	1,734.8779	1,734.8779	0.5505		1,748.6403
Paving	0.7441					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1730	8.8843	12.2314	0.0191		0.0737	0.0737		0.0737	0.0737	0.0000	1,734.8779	1,734.8779	0.5505		1,748.6403

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	lb/day										lb/day					
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
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
Worker	0.1223	0.0972	1.0423	2.4300e-003	0.2300	1.9100e-003	0.2319	0.0610	1.7700e-003	0.0628		241.4931	241.4931	9.9600e-003		241.7422
Total	0.1223	0.0972	1.0423	2.4300e-003	0.2300	1.9100e-003	0.2319	0.0610	1.7700e-003	0.0628		241.4931	241.4931	9.9600e-003		241.7422

UCSC Hagar Operation - Monterey Bay Unified APCD Air District, Annual

UCSC Hagar Operation
Monterey Bay Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	13.50	1000sqft	3.00	13,500.00	0
Parking Lot	208.00	Space	2.00	83,200.00	0
Apartments Mid Rise	140.00	Dwelling Unit	3.68	138,100.00	400

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 rate
- Land Use - Applicant provided land uses
- Construction Phase - Operational Run only
- Off-road Equipment - Operatonal run only
- Trips and VMT - operational run only
- Grading -
- Energy Use -

Water And Wastewater - from project description. all wastewater treatment

Solid Waste - based on project description

Energy Mitigation - new energy-efficient construction

Water Mitigation - low-flow fixtures and water-efficient irrigation

Vehicle Trips - Student Trip Rate = 0.657

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LandUseSquareFeet	140,000.00	138,100.00
tblLandUse	LotAcreage	0.31	3.00
tblLandUse	LotAcreage	1.87	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblSolidWaste	SolidWasteGenerationRate	64.40	162.50
tblSolidWaste	SolidWasteGenerationRate	17.55	0.00
tblVehicleTrips	ST_TR	6.39	0.66
tblVehicleTrips	SU_TR	5.86	0.66
tblVehicleTrips	WD_TR	6.65	0.66
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	IndoorWaterUseRate	9,121,563.59	7,200,000.00
tblWater	IndoorWaterUseRate	579,009.16	0.00
tblWater	OutdoorWaterUseRate	5,750,550.96	3,496,267.00
tblWater	OutdoorWaterUseRate	1,488,880.70	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
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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	0.7391	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214
Energy	7.7900e-003	0.0672	0.0331	4.2000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	166.5563	166.5563	0.0104	3.2600e-003	167.7897
Mobile	0.2761	1.3032	2.5657	6.2800e-003	0.4260	6.7200e-003	0.4328	0.1144	6.3100e-003	0.1207	0.0000	576.3891	576.3891	0.0380	0.0000	577.3379
Waste						0.0000	0.0000		0.0000	0.0000	32.9860	0.0000	32.9860	1.9494	0.0000	81.7215
Water						0.0000	0.0000		0.0000	0.0000	2.5474	6.7344	9.2818	9.4400e-003	5.6800e-003	11.2102
Total	1.0230	1.3872	4.0485	6.7800e-003	0.4260	0.0201	0.4461	0.1144	0.0197	0.1341	35.5334	752.0437	787.5771	2.0095	8.9400e-003	840.4807

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	0.7391	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214
Energy	7.7900e-003	0.0672	0.0331	4.2000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	158.4575	158.4575	9.6100e-003	3.1000e-003	159.6207
Mobile	0.2761	1.3032	2.5657	6.2800e-003	0.4260	6.7200e-003	0.4328	0.1144	6.3100e-003	0.1207	0.0000	576.3891	576.3891	0.0380	0.0000	577.3379

Waste						0.0000	0.0000		0.0000	0.0000	32.9860	0.0000	32.9860	1.9494	0.0000	81.7215
Water						0.0000	0.0000		0.0000	0.0000	2.0379	5.6113	7.6492	7.5800e-003	4.5500e-003	9.1938
Total	1.0230	1.3872	4.0485	6.7800e-003	0.4260	0.0201	0.4461	0.1144	0.0197	0.1341	35.0239	742.8218	777.8457	2.0069	7.6500e-003	830.2954

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43	1.23	1.24	0.13	14.43	1.21

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	0.2761	1.3032	2.5657	6.2800e-003	0.4260	6.7200e-003	0.4328	0.1144	6.3100e-003	0.1207	0.0000	576.3891	576.3891	0.0380	0.0000	577.3379
Unmitigated	0.2761	1.3032	2.5657	6.2800e-003	0.4260	6.7200e-003	0.4328	0.1144	6.3100e-003	0.1207	0.0000	576.3891	576.3891	0.0380	0.0000	577.3379

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	91.98	91.98	91.98	264,984	264,984
Day-Care Center	999.81	83.84	78.71	868,348	868,348
Parking Lot	0.00	0.00	0.00		
Total	1,091.79	175.82	170.69	1,133,333	1,133,333

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	7.30	7.50	44.00	18.80	37.20	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
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	0.538577	0.029539	0.200691	0.130346	0.023427	0.005544	0.018258	0.038656	0.003068	0.002679	0.007152	0.001102	0.000959
Day-Care Center	0.538577	0.029539	0.200691	0.130346	0.023427	0.005544	0.018258	0.038656	0.003068	0.002679	0.007152	0.001102	0.000959
Parking Lot	0.538577	0.029539	0.200691	0.130346	0.023427	0.005544	0.018258	0.038656	0.003068	0.002679	0.007152	0.001102	0.000959

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Install Energy Efficient Appliances

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	81.3679	81.3679	8.1400e-003	1.6800e-003	82.0730
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	89.4667	89.4667	8.9500e-003	1.8500e-003	90.2419
Natural Gas Mitigated	7.7900e-003	0.0672	0.0331	4.2000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	77.0896	77.0896	1.4800e-003	1.4100e-003	77.5477

NaturalGas Unmitigated	7.7900e-003	0.0672	0.0331	4.2000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	77.0896	77.0896	1.4800e-003	1.4100e-003	77.5477
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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	1.22226e+006	6.5900e-003	0.0563	0.0240	3.6000e-004		4.5500e-003	4.5500e-003		4.5500e-003	4.5500e-003	0.0000	65.2245	65.2245	1.2500e-003	1.2000e-003	65.6121
Day-Care Center	222345	1.2000e-003	0.0109	9.1600e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	11.8652	11.8652	2.3000e-004	2.2000e-004	11.9357
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		7.7900e-003	0.0672	0.0331	4.3000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	77.0896	77.0896	1.4800e-003	1.4200e-003	77.5477

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	1.22226e+006	6.5900e-003	0.0563	0.0240	3.6000e-004		4.5500e-003	4.5500e-003		4.5500e-003	4.5500e-003	0.0000	65.2245	65.2245	1.2500e-003	1.2000e-003	65.6121
Day-Care Center	222345	1.2000e-003	0.0109	9.1600e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	11.8652	11.8652	2.3000e-004	2.2000e-004	11.9357
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		7.7900e-003	0.0672	0.0331	4.3000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	77.0896	77.0896	1.4800e-003	1.4200e-003	77.5477

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	591079	77.7515	7.7800e-003	1.6100e-003	78.4253
Day-Care Center	59940	7.8846	7.9000e-004	1.6000e-004	7.9529
Parking Lot	29120	3.8305	3.8000e-004	8.0000e-005	3.8637
Total		89.4667	8.9500e-003	1.8500e-003	90.2419

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	547152	71.9734	7.2000e-003	1.4900e-003	72.5970
Day-Care Center	50452.2	6.6366	6.6000e-004	1.4000e-004	6.6941
Parking Lot	20966.4	2.7580	2.8000e-004	6.0000e-005	2.7819
Total		81.3679	8.1400e-003	1.6900e-003	82.0730

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	0.7391	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214
Unmitigated	0.7391	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214

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	0.0975					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5975					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0441	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214
Total	0.7391	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214

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	0.0975					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5975					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0441	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214
Total	0.7391	0.0167	1.4498	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3639	2.3639	2.3000e-003	0.0000	2.4214

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.6492	7.5800e-003	4.5500e-003	9.1938
Unmitigated	9.2818	9.4400e-003	5.6800e-003	11.2102

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	7.2 / 3.49627	9.2818	9.4400e-003	5.6800e-003	11.2102
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		9.2818	9.4400e-003	5.6800e-003	11.2102

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.76 / 3.28299	7.6492	7.5800e-003	4.5500e-003	9.1938
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		7.6492	7.5800e-003	4.5500e-003	9.1938

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	32.9860	1.9494	0.0000	81.7215
Unmitigated	32.9860	1.9494	0.0000	81.7215

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	162.5	32.9860	1.9494	0.0000	81.7215
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		32.9860	1.9494	0.0000	81.7215

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
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Land Use	tons	MT/yr			
Apartments Mid Rise	162.5	32.9860	1.9494	0.0000	81.7215
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		32.9860	1.9494	0.0000	81.7215

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

UCSC Hagar Operation - Monterey Bay Unified APCD Air District, Summer

UCSC Hagar Operation
Monterey Bay Unified APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	13.50	1000sqft	3.00	13,500.00	0
Parking Lot	208.00	Space	2.00	83,200.00	0
Apartments Mid Rise	140.00	Dwelling Unit	3.68	138,100.00	400

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 rate
- Land Use - Applicant provided land uses
- Construction Phase - Operational Run only
- Off-road Equipment - Operatonal run only
- Trips and VMT - operational run only
- Grading -
- Energy Use -

Water And Wastewater - from project description. all wastewater treatment

Solid Waste - based on project description

Energy Mitigation - new energy-efficient construction

Water Mitigation - low-flow fixtures and water-efficient irrigation

Vehicle Trips - Student Trip Rate = 0.657

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LandUseSquareFeet	140,000.00	138,100.00
tblLandUse	LotAcreage	0.31	3.00
tblLandUse	LotAcreage	1.87	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblSolidWaste	SolidWasteGenerationRate	64.40	162.50
tblSolidWaste	SolidWasteGenerationRate	17.55	0.00
tblVehicleTrips	ST_TR	6.39	0.66
tblVehicleTrips	SU_TR	5.86	0.66
tblVehicleTrips	WD_TR	6.65	0.66
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercentage	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercentage	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercentage	2.21	0.00
tblWater	IndoorWaterUseRate	9,121,563.59	7,200,000.00
tblWater	IndoorWaterUseRate	579,009.16	0.00
tblWater	OutdoorWaterUseRate	5,750,550.96	3,496,267.00
tblWater	OutdoorWaterUseRate	1,488,880.70	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
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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	lb/day										lb/day					
Area	4.1610	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639	0.0000	20.8458	20.8458	0.0203	0.0000	21.3529
Energy	0.0427	0.3683	0.1815	2.3300e-003		0.0295	0.0295		0.0295	0.0295		465.6262	465.6262	8.9200e-003	8.5400e-003	468.3932
Mobile	2.1513	9.0752	17.5580	0.0461	3.0743	0.0468	3.1211	0.8235	0.0440	0.8675		4,669.2071	4,669.2071	0.2911		4,676.4842
Total	6.3549	9.5774	29.3374	0.0491	3.0743	0.1402	3.2145	0.8235	0.1373	0.9609	0.0000	5,155.6791	5,155.6791	0.3203	8.5400e-003	5,166.2302

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	lb/day										lb/day					
Area	4.1610	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639	0.0000	20.8458	20.8458	0.0203	0.0000	21.3529
Energy	0.0427	0.3683	0.1815	2.3300e-003		0.0295	0.0295		0.0295	0.0295		465.6262	465.6262	8.9200e-003	8.5400e-003	468.3932
Mobile	2.1513	9.0752	17.5580	0.0461	3.0743	0.0468	3.1211	0.8235	0.0440	0.8675		4,669.2071	4,669.2071	0.2911		4,676.4842
Total	6.3549	9.5774	29.3374	0.0491	3.0743	0.1402	3.2145	0.8235	0.1373	0.9609	0.0000	5,155.6791	5,155.6791	0.3203	8.5400e-003	5,166.2302

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	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	lb/day										lb/day					
Mitigated	2.1513	9.0752	17.5580	0.0461	3.0743	0.0468	3.1211	0.8235	0.0440	0.8675		4,669.207 1	4,669.2071	0.2911		4,676.484 2
Unmitigated	2.1513	9.0752	17.5580	0.0461	3.0743	0.0468	3.1211	0.8235	0.0440	0.8675		4,669.207 1	4,669.2071	0.2911		4,676.484 2

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	91.98	91.98	91.98	264,984	264,984
Day-Care Center	999.81	83.84	78.71	868,348	868,348
Parking Lot	0.00	0.00	0.00		
Total	1,091.79	175.82	170.69	1,133,333	1,133,333

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	7.30	7.50	44.00	18.80	37.20	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14

Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.538577	0.029539	0.200691	0.130346	0.023427	0.005544	0.018258	0.038656	0.003068	0.002679	0.007152	0.001102	0.000959
Day-Care Center	0.538577	0.029539	0.200691	0.130346	0.023427	0.005544	0.018258	0.038656	0.003068	0.002679	0.007152	0.001102	0.000959
Parking Lot	0.538577	0.029539	0.200691	0.130346	0.023427	0.005544	0.018258	0.038656	0.003068	0.002679	0.007152	0.001102	0.000959

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0427	0.3683	0.1815	2.3300e-003		0.0295	0.0295		0.0295	0.0295		465.6262	465.6262	8.9200e-003	8.5400e-003	468.3932
NaturalGas Unmitigated	0.0427	0.3683	0.1815	2.3300e-003		0.0295	0.0295		0.0295	0.0295		465.6262	465.6262	8.9200e-003	8.5400e-003	468.3932

5.2 Energy by Land Use - NaturalGas

Unmitigated

	Natural Gas 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	lb/day										lb/day					
Apartments Mid Rise	3348.66	0.0361	0.3086	0.1313	1.9700e-003		0.0250	0.0250		0.0250	0.0250		393.9598	393.9598	7.5500e-003	7.2200e-003	396.3009
Day-Care Center	609.164	6.5700e-003	0.0597	0.0502	3.6000e-004		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003		71.6664	71.6664	1.3700e-003	1.3100e-003	72.0923
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
Total		0.0427	0.3683	0.1815	2.3300e-003		0.0295	0.0295		0.0295	0.0295		465.6262	465.6262	8.9200e-003	8.5300e-003	468.3932

Mitigated

	Natural Gas 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	lb/day										lb/day					
Apartments Mid Rise	3.34866	0.0361	0.3086	0.1313	1.9700e-003		0.0250	0.0250		0.0250	0.0250		393.9598	393.9598	7.5500e-003	7.2200e-003	396.3009
Day-Care Center	0.609164	6.5700e-003	0.0597	0.0502	3.6000e-004		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003		71.6664	71.6664	1.3700e-003	1.3100e-003	72.0923
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
Total		0.0427	0.3683	0.1815	2.3300e-003		0.0295	0.0295		0.0295	0.0295		465.6262	465.6262	8.9200e-003	8.5300e-003	468.3932

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	lb/day										lb/day					
Mitigated	4.1610	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639	0.0000	20.8458	20.8458	0.0203	0.0000	21.3529
Unmitigated	4.1610	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639	0.0000	20.8458	20.8458	0.0203	0.0000	21.3529

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	lb/day										lb/day					
Architectural Coating	0.5344					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3528	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639		20.8458	20.8458	0.0203		21.3529
Total	4.1610	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639	0.0000	20.8458	20.8458	0.0203	0.0000	21.3529

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	lb/day										lb/day					

Architectural Coating	0.5344					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3528	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639		20.8458	20.8458	0.0203		21.3529
Total	4.1610	0.1338	11.5980	6.1000e-004		0.0639	0.0639		0.0639	0.0639	0.0000	20.8458	20.8458	0.0203	0.0000	21.3529

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation
