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July 7, 2021

Kamal Azari
Azari Vineyards
1399 Spring Hill Road
Petaluma CA 94952

VIA E-Mail: kamalazari@gmail.com

SUBJECT: **Azari Vineyards Tasting Room at 1321 Spring Hill Road, Petaluma
Sonoma County, California – Greenhouse Gas Emissions Analysis –
I&R Job #21-068**

Dear Kamal:

This letter presents the evaluation of greenhouse gas (GHG) emissions associated with the proposed Azari Vineyards Tasting Room project located in the unincorporated Petaluma area of Sonoma County at 1321 Spring Hill Road.

Project Description

The Use Permit proposal for the development of the Tasting Room at 1321 Spring Hill Road west of the City of Petaluma (see Figure 1) describes the project as follows:

1. A new 2,809 square foot tasting room building with an approximate 2,409 square-foot tasting area and a 400 square-foot food preparation area. Restrooms are proposed in a separate 302 square-foot building. Hours of operation for the tasting room would be Thursday-Sunday between 11am to 5pm,
2. Approximately 4,973 square feet of patio/walkways are proposed around the perimeter of the proposed tasting room building with an approximate 2,000 square-foot patio/terrace for viewing west of the proposed tasting room,
3. Two new driveways to allow access to the proposed parking lot from Spring Hill Road,
4. The new tasting room would hold 10 Special Events (8 Agricultural Promotional Events, 2 Industry Wide Events) per year with 200 guests per Event. Special Events will utilize music and amplified sound and will be held between the hours of 11am-5pm, and
5. A new parking lot adjacent to the tasting room building with 28 regular parking spaces and 2 handicap parking spaces. An overflow parking area with 53 regular parking spaces will be located to the east.

As part of the project, there would be no change to wine production.

Air Quality and GHG Issues

The primary source of GHG emissions associated with the project would be from the traffic. Other sources would include minor direct emissions from natural gas usage and indirect emissions from electricity usage.

Traffic information used in this analysis is based on the project's traffic memo.¹ This analysis evaluates the GHG emissions of the proposed project, resulting primarily from vehicle traffic. No stationary sources associated with the project were proposed at the time of this study that would generate substantial GHG emissions.

Setting and Regulatory Background

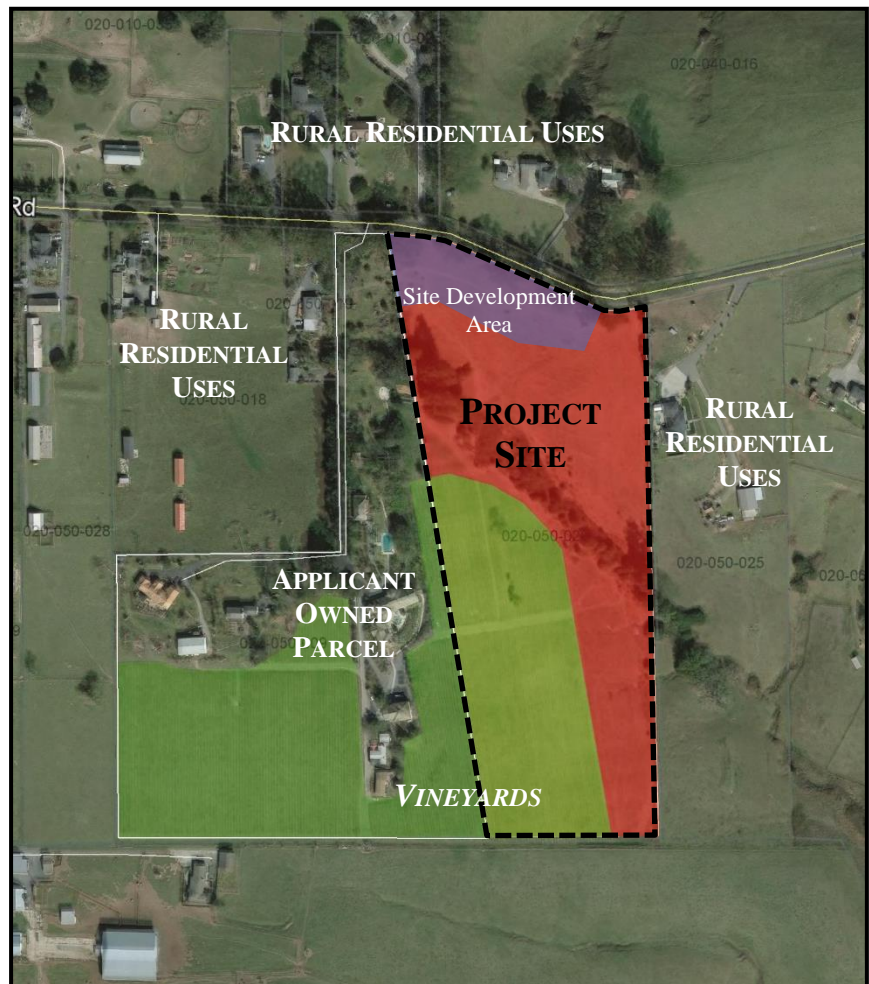
The project is located in the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District's (BAAQMD) California Environmental Quality Act (CEQA) Air Quality Guidelines to assess air quality and GHG emissions from land use projects. This analysis was conducted following guidance provided by BAAQMD.²

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called GHGs. Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. GHGs, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect.

¹ W-Trans, "Draft Focused Traffic Study for the Azari Tasting Room Project", July 6, 2021.

² BAAQMD. 2017. *Air Quality CEQA Guidelines*. May.

Figure 1: Project site and Surroundings



The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- CO₂, primarily a byproduct of fuel combustion;
- Nitrous oxide (N₂O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH₄), commonly created by off-gassing from agricultural practices (e.g. livestock), wastewater treatment and landfill operations;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants and cleaning solvents, but their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

These gases vary considerably in terms of Global Warming Potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each GHG is measured relative to CO₂. Accordingly, GHG emissions are typically measured and reported in terms of equivalent CO₂ (CO₂e). For instance, SF₆ is 22,800 times more intense in terms of global climate change contribution than CO₂.

The State of California is addressing the issue of GHG through legislation, policy guidance, and outreach programs. CO₂ is the primary GHG emitted from land use and industrial projects. In 2006 California enacted AB 32 – the Global Warming Solutions Act, which requires that statewide GHG emissions be reduced to 1990 levels by 2020. In 2008, the California Air Resources Board (CARB) adopted the Climate Change Scoping Plan in response to AB 32. This plan describes the strategies that the State will implement to reduce future emissions by 28% to meet the 1990 target goal in 2020. BAAQMD's analysis of future land use development in the Bay Area and applicable AB 32 GHG reduction strategies lead to the development of emission-based significance thresholds for the projects in the Bay Area, which are also used in Sonoma County.

Climate Action 2020 and Beyond – Sonoma County Regional Climate Action Plan

Climate Action 2020 and Beyond is a regional climate action plan (CAP) established by Sonoma County to reduce GHG emissions.³ The CAP was published in July 2016. According to the County CAP, the county emitted approximately 3,944,000 MT CO_{2e} in the year 2010. This countywide inventory identified that 53 percent of the emissions were due to on-road transportation, 34 percent came from building energy, 7 percent came from fertilizer and livestock, 4 percent came from solid waste, 2 percent came from off-road transportation and equipment, and less than one percent was due to wastewater treatment and water conveyance. Transportation and building energy are the biggest GHG emissions sources in Sonoma County.

The CAP includes measures to reduce GHG emissions by 25 percent below 1990 levels by 2020, which is the primary goal. The CAP's long-term goals include to reduce GHG emissions by 40 percent in 2030 and by 80 percent in 2050. The CAP includes goals and GHG reduction measures for six different GHG sources. Additionally, the CAP includes per capita targets to assess whether the long-term goals are being met. The 2020 County Target is 5.8 MT CO_{2e} per capita, while the 2040 and 2050 targets are 2.6 and 1.3 MT CO_{2e} per capita, respectively. The CAP also includes a consistency checklist listed as *Appendix A Climate Action 2020 Community Climate Action Plan Consistency Checklist Template* as a tool for local agencies to evaluate consistency with the CAP.⁴ However, this CAP is not a valid CAP, and therefore not used for CEQA purposes.⁵

BAAQMD CEQA Thresholds

The BAAQMD Air Quality CEQA Guidelines include a bright-line emissions threshold of 1,100 metric tons (MT) of CO_{2e} or an emission efficiency metric of 4.6 MT of CO_{2e} per year per service population (future residences and full-time workers) if the bright-line threshold is exceeded. Projects that have emissions below 1,100 MT of CO_{2e} per year, or 4.6 MT of CO_{2e} per year per capita, are considered to have less-than-significant GHG emissions. For this analysis, only the metric ton threshold of 1,100 MT of CO_{2e} per year would apply.

BAAQMD recommends thresholds for emissions of air pollutants or their precursors also. These include emissions of ozone precursor pollutants that are reactive organic gases (ROG) and nitrogen oxides. Particulate matter emissions are a concern also and there are thresholds for respirable particulate matter, which are particulates with an aerodynamic diameter of 10 micrometers or less (PM₁₀) and fine particulate matter that has a diameter of 2.5 micrometers or less (PM_{2.5}). Construction and operational daily emission thresholds are 54 pounds per average day for ROG, NO_x and PM_{2.5} and 82 pounds per day for PM₁₀. There is an annual threshold for operation of 10 tons per year for ROG, NO_x and PM_{2.5} and 15 tons for PM₁₀.

³ Sonoma County Regional Climate Protection Authority, 2016. *Climate Action 2020 and Beyond*. July. Web: https://rcpa.ca.gov/wp-content/uploads/2016/07/CA2020_Plan_7-7-16_web.pdf

⁴ Sonoma County Regional Climate Protection Authority, 2016. *Climate Action 2020 and Beyond Appendices*. July. Web: https://rcpa.ca.gov/wp-content/uploads/2016/07/CA2020_Appendices_7-7-16_web.pdf

⁵ Sonoma County, 2018. *Resolution Number 18-0166*. May.

Construction Emissions

The California Emissions Estimator Model, Version 2020.4.0 (CalEEMod) was used to estimate construction emissions in the form of CO_{2e}. CalEEMod is a computer model developed by the South Coast Air Quality Management District with cooperation of other California Air Districts to estimate air pollutant and GHG emissions from land use development projects. The model is recommended by BAAQMD for use in estimating emissions from land use development projects. An approximate 12-month construction schedule was assumed in the modeling based on the CalEEMod default for a project of this size and type. The project proposed land uses were entered as follows:

- 2.81 thousand square feet of “Quality Restaurant” to represent the tasing room,
- 0.16 acres of “City Park” to represent the patio, walkways, and outdoor use areas,
- 30-space “Parking Lot” to represent paved parking area,
- 0.20-acre “Other Asphalt Surfaces” to represent paved driveways, and
- 0.48-acre “Non-Asphalt Surfaces” to represent overflow parking area.

Default acreages assigned by CalEEMod were used. Since specific construction information was unknown, the default inputs assigned by CalEEMod were used. This likely provides an overestimate of the activity since intense construction will not be required for many of the land uses.

Air Pollutant and GHG Emissions

Under this scenario, construction of the project would emit 226 metric tons of CO_{2e}. Neither the County of Sonoma nor the BAAQMD have quantified thresholds for construction activities. However, the emissions would be below the lowest threshold adopted by BAAQMD and could be considered less-than-significant. BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Emissions of air pollutants or their precursors would be well below BAAQMD-recommended thresholds. Table 1 shows the construction period emission estimates.

Table 1. Construction Emissions

Scenario	ROG	NO _x	PM ₁₀	PM _{2.5}	GHG
Total Project Construction Emissions	0.21 tons	1.44 tons	0.07 tons	0.06 tons	226 metric tons
Average Daily Emissions based on 226 workdays computed by CalEEMod	2 lbs.	13 lbs.	<1 lbs.	<1 lbs.	--
<i>BAAQMD Thresholds (avg. Lbs./day)</i>	<i>54 lbs</i>	<i>54 lbs</i>	<i>82 lbs*</i>	<i>54 lbs*</i>	--
<i>Significant?</i>	No	No	No	No	No

*Exhaust portion of emission only.

Project Operational Emissions

CalEEMod was used to estimate full build-out operational GHG emissions, shown in Table 2. Unless otherwise noted below, the model defaults for the Sonoma County (San Francisco portion) were used along with rural trip characteristics. The year 2022 was used for modeling, as this assumed to be the first full year after construction that the project could be operational. Annual emissions occurring after 2022 would be lower as vehicle and electricity production emission rates are anticipated to continually decrease. CalEEMod estimates emissions for mobile, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. Table 2 summarizes operational air pollutant and Table 3 summarizes the GHG emissions due to operation of the project. Additional inputs to CalEEMod for the operational modeling are described below.

Traffic

The CalEEMod model uses mobile emission factors from the California Air Resources Board's EMFAC2017 model. Forecasted project trip generation rates provided by *W-Trans* were applied to separate model runs. The weekday, Saturday and Sunday trip rates were assumed to be the same. The default trip lengths and traffic mix for Sonoma County in CalEEMod for rural settings were also used. Mobile emissions from planned special events were calculated in a separate model run and were based on a scenario involving ten 200-person events annually. *W-Trans* predicts 22 daily trips and 110 trips for each special event. Mobile emissions for the special events were based on prorating the annual trips. Annually, the project would generate 8,030 trips (22 trips times 365 days) and the special events would generate 1,100 trips (110 trips times 10 events). On an annual basis, event trips would represent 14 percent of the typical mobile emissions. The CalEEMod predicted annual mobile emissions were increased by 14 percent to account for ten special events per year.

Energy, Natural Gas, Water Usage, and Solid Waste Production

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 203.98 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2019 emissions rate. The project is anticipate to use 294,640 gallons of water per year for domestic uses and 238,336 gallons for irrigation. The wastewater from domestic use would be treated would be disposed of in a non-standard type septic system. Default model assumptions for emissions associated with solid waste generation use were applied to the project.

As shown in Table 3, the proposed project would have direct and indirect emissions that are below the GHG operational threshold (1,100 metric tons of CO₂e per year) recommended by BAAQMD for new project. Therefore, the project's GHG emissions would *not significantly* contribute to a cumulative impact on global climate change.

Table 2. Annual Operational Air Pollutant Emissions

Scenario	ROG	NOx	PM ₁₀	PM _{2.5}
Annual Project Operational emissions	0.03 tons	0.04 tons	0.01 tons	0.01 tons
<i>BAAQMD Thresholds (tons per year)</i>	<i>10 tons</i>	<i>10 tons</i>	<i>15 tons</i>	<i>10 tons</i>
Daily Project Operational emissions	0.2 lbs/day	0.2 lbs/day	0.1lbs/day	<0.1 lbs/day
<i>BAAQMD Thresholds (lbs/day)</i>	<i>54 lbs/day</i>	<i>54 lbs/day</i>	<i>82 lbs/day</i>	<i>54 lbs/day</i>
<i>Exceed Threshold?</i>	No	No	No	No

Table 3. Annual Operational GHG Emissions in Metric Tons of CO_{2e}

Source	Methodology	Project Emissions
Area	Based on CalEEMod default	<1.0
Energy Consumption	Based on CalEEMod default, based on PG&E electricity CO _{2e} intensity factor	40.1
Mobile	Includes daily traffic generation (22 trips)	10.0
Mobile	10 Annual Special Events (200 people/110 trips per event)	1.4
Solid Waste	Based on CalEEMod default	1.3
Water	Based on CalEEMod default	2.0
Project Total		55 metric tons

* * *

This concludes the assessment of the GHG impacts from the proposed Azari Vineyards Tasting Room project. If you have any questions or comments, please feel free to contact I&R at (707) 794-0400. We appreciate the opportunity to assist you.

Sincerely,

James A. Reyff
 Principal Consultant
Illingworth & Rodkin, Inc.

Attachment 1: CalEEMod Outputs

I&R Project: 21-068

Attachment 1: CalEEMod Outputs

1321 Spring Hill Rd Winery Tasting Room/Events - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**1321 Spring Hill Rd Winery Tasting Room/Events
Sonoma-San Francisco County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Quality Restaurant	2.81	1000sqft	0.06	2,810.00	0
City Park	0.16	Acre	0.16	6,969.60	0
Parking Lot	30.00	Space	0.27	12,000.00	0
Other Asphalt Surfaces	0.20	Acre	0.20	8,712.00	0
Other Non-Asphalt Surfaces	0.48	Acre	0.48	20,908.80	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2022
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Tasting Rm = 2.81 ksf, 6973 sf patio walkways = 0.16acre park, 83 parking spaces (30 spaces + driveways paved and 53 spaces unpaved)

Construction Phase - no demolition

Vehicle Trips - Average rate based on 22 trips per day 22/2.81ksf = 7.83 trip/ksf

Water And Wastewater - Domestic assigned to tasting room and irrigation assigned to patio and walkways. Treated by septic

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

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tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	90.04	7.83
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	71.97	7.83
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	83.84	7.83
tblWater	AerobicPercent	87.46	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	852,929.73	294,640.00
tblWater	OutdoorWaterUseRate	190,637.02	238,336.00
tblWater	OutdoorWaterUseRate	54,442.32	0.00
tblWater	SepticTankPercent	10.33	100.00
tblWater	SepticTankPercent	10.33	100.00
tblWater	SepticTankPercent	10.33	100.00
tblWater	SepticTankPercent	10.33	100.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblWater	SepticTankPercent	10.33	100.00
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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					
2021	0.0651	0.4990	0.4550	8.4000e-004	0.0275	0.0241	0.0516	0.0118	0.0232	0.0349	0.0000	70.9729	70.9729	0.0120	8.9000e-004	71.5398
2022	0.1494	0.9379	0.9878	1.8300e-003	0.0158	0.0432	0.0590	4.2900e-003	0.0416	0.0459	0.0000	153.2686	153.2686	0.0244	1.9200e-003	154.4499
Maximum	0.1494	0.9379	0.9878	1.8300e-003	0.0275	0.0432	0.0590	0.0118	0.0416	0.0459	0.0000	153.2686	153.2686	0.0244	1.9200e-003	154.4499

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					
2021	0.0651	0.4990	0.4550	8.4000e-004	0.0275	0.0241	0.0516	0.0118	0.0232	0.0349	0.0000	70.9729	70.9729	0.0120	8.9000e-004	71.5397
2022	0.1494	0.9379	0.9878	1.8300e-003	0.0158	0.0432	0.0590	4.2900e-003	0.0416	0.0459	0.0000	153.2684	153.2684	0.0244	1.9200e-003	154.4497
Maximum	0.1494	0.9379	0.9878	1.8300e-003	0.0275	0.0432	0.0590	0.0118	0.0416	0.0459	0.0000	153.2684	153.2684	0.0244	1.9200e-003	154.4497

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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	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2021	11-30-2021	0.3788	0.3788
2	12-1-2021	2-28-2022	0.4903	0.4903
3	3-1-2022	5-31-2022	0.4844	0.4844
4	6-1-2022	8-31-2022	0.2961	0.2961
		Highest	0.4903	0.4903

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	0.0161	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004
Energy	3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	39.8332	39.8332	2.0100e-003	7.4000e-004	40.1044
Mobile	0.0102	0.0111	0.0713	1.1000e-004	9.6200e-003	1.3000e-004	9.7400e-003	2.5800e-003	1.2000e-004	2.7000e-003	0.0000	9.7600	9.7600	1.0400e-003	6.7000e-004	9.9851
Waste						0.0000	0.0000		0.0000	0.0000	0.5217	0.0000	0.5217	0.0308	0.0000	1.2925
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.2247	0.2247	0.0670	2.3000e-004	1.9675
Total	0.0295	0.0396	0.0955	2.8000e-004	9.6200e-003	2.3000e-003	0.0119	2.5800e-003	2.2900e-003	4.8700e-003	0.5217	49.8185	50.3402	0.1008	1.6400e-003	53.3501

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0161	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004
Energy	3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	39.8332	39.8332	2.0100e-003	7.4000e-004	40.1044
Mobile	0.0102	0.0111	0.0713	1.1000e-004	9.6200e-003	1.3000e-004	9.7400e-003	2.5800e-003	1.2000e-004	2.7000e-003	0.0000	9.7600	9.7600	1.0400e-003	6.7000e-004	9.9851
Waste						0.0000	0.0000		0.0000	0.0000	0.5217	0.0000	0.5217	0.0308	0.0000	1.2925
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.2247	0.2247	0.0670	2.3000e-004	1.9675
Total	0.0295	0.0396	0.0955	2.8000e-004	9.6200e-003	2.3000e-003	0.0119	2.5800e-003	2.2900e-003	4.8700e-003	0.5217	49.8185	50.3402	0.1008	1.6400e-003	53.3501

	ROG	NOx	CO	SO2	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

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	9/29/2021	9/30/2021	5	2	

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2	Grading	Grading	10/1/2021	10/6/2021	5	4
3	Building Construction	Building Construction	10/7/2021	7/13/2022	5	200
4	Paving	Paving	7/14/2022	7/27/2022	5	10
5	Architectural Coating	Architectural Coating	7/28/2022	8/10/2022	5	10

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.95

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 4,215; Non-Residential Outdoor: 1,405; Striped Parking Area: 2,497 (Architectural Coating – sqft)
OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Welders	3	8.00	46	0.45
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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
Architectural Coating	1	4.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	22.00	8.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5600e-003	0.0174	7.5600e-003	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241
Total	1.5600e-003	0.0174	7.5600e-003	2.0000e-005	6.2700e-003	7.7000e-004	7.0400e-003	3.0000e-003	7.0000e-004	3.7000e-003	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241

Unmitigated Construction Off-Site

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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
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-005	3.0000e-005	2.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0547
Total	3.0000e-005	3.0000e-005	2.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0547

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5600e-003	0.0174	7.5600e-003	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241
Total	1.5600e-003	0.0174	7.5600e-003	2.0000e-005	6.2700e-003	7.7000e-004	7.0400e-003	3.0000e-003	7.0000e-004	3.7000e-003	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241

Mitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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-005	3.0000e-005	2.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0547
Total	3.0000e-005	3.0000e-005	2.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0547

3.3 Grading - 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					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6500e-003	0.0404	0.0195	4.0000e-005		1.8300e-003	1.8300e-003		1.6800e-003	1.6800e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	3.6500e-003	0.0404	0.0195	4.0000e-005	0.0142	1.8300e-003	0.0160	6.8500e-003	1.6800e-003	8.5300e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

Unmitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	8.0000e-005	6.0000e-005	6.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1352	0.1352	1.0000e-005	0.0000	0.1368
Total	8.0000e-005	6.0000e-005	6.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1352	0.1352	1.0000e-005	0.0000	0.1368

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					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6500e-003	0.0404	0.0195	4.0000e-005		1.8300e-003	1.8300e-003		1.6800e-003	1.6800e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	3.6500e-003	0.0404	0.0195	4.0000e-005	0.0142	1.8300e-003	0.0160	6.8500e-003	1.6800e-003	8.5300e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

Mitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	8.0000e-005	6.0000e-005	6.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1352	0.1352	1.0000e-005	0.0000	0.1368
Total	8.0000e-005	6.0000e-005	6.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1352	0.1352	1.0000e-005	0.0000	0.1368

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	0.0562	0.4227	0.3999	6.8000e-004		0.0212	0.0212		0.0205	0.0205	0.0000	56.2798	56.2798	0.0101	0.0000	56.5310
Total	0.0562	0.4227	0.3999	6.8000e-004		0.0212	0.0212		0.0205	0.0205	0.0000	56.2798	56.2798	0.0101	0.0000	56.5310

Unmitigated Construction Off-Site

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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
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	7.9000e-004	0.0162	4.5200e-003	5.0000e-005	1.4600e-003	2.6000e-004	1.7100e-003	4.2000e-004	2.4000e-004	6.7000e-004	0.0000	4.7609	4.7609	1.0000e-004	7.2000e-004	4.9785
Worker	2.8100e-003	2.1400e-003	0.0226	5.0000e-005	5.3500e-003	4.0000e-005	5.3900e-003	1.4200e-003	3.0000e-005	1.4600e-003	0.0000	4.6104	4.6104	1.9000e-004	1.7000e-004	4.6647
Total	3.6000e-003	0.0184	0.0271	1.0000e-004	6.8100e-003	3.0000e-004	7.1000e-003	1.8400e-003	2.7000e-004	2.1300e-003	0.0000	9.3713	9.3713	2.9000e-004	8.9000e-004	9.6432

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	0.0562	0.4227	0.3999	6.8000e-004		0.0212	0.0212		0.0205	0.0205	0.0000	56.2797	56.2797	0.0101	0.0000	56.5309
Total	0.0562	0.4227	0.3999	6.8000e-004		0.0212	0.0212		0.0205	0.0205	0.0000	56.2797	56.2797	0.0101	0.0000	56.5309

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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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	7.9000e-004	0.0162	4.5200e-003	5.0000e-005	1.4600e-003	2.6000e-004	1.7100e-003	4.2000e-004	2.4000e-004	6.7000e-004	0.0000	4.7609	4.7609	1.0000e-004	7.2000e-004	4.9785
Worker	2.8100e-003	2.1400e-003	0.0226	5.0000e-005	5.3500e-003	4.0000e-005	5.3900e-003	1.4200e-003	3.0000e-005	1.4600e-003	0.0000	4.6104	4.6104	1.9000e-004	1.7000e-004	4.6647
Total	3.6000e-003	0.0184	0.0271	1.0000e-004	6.8100e-003	3.0000e-004	7.1000e-003	1.8400e-003	2.7000e-004	2.1300e-003	0.0000	9.3713	9.3713	2.9000e-004	8.9000e-004	9.6432

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	0.1138	0.8627	0.8781	1.5200e-003		0.0406	0.0406		0.0393	0.0393	0.0000	125.2881	125.2881	0.0218	0.0000	125.8336
Total	0.1138	0.8627	0.8781	1.5200e-003		0.0406	0.0406		0.0393	0.0393	0.0000	125.2881	125.2881	0.0218	0.0000	125.8336

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					

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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	8.0000e-005	6.0000e-005	6.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1312	0.1312	1.0000e-005	0.0000	0.1326
Total	8.0000e-005	6.0000e-005	6.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1312	0.1312	1.0000e-005	0.0000	0.1326

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	0.0102	0.0111	0.0713	1.1000e-004	9.6200e-003	1.3000e-004	9.7400e-003	2.5800e-003	1.2000e-004	2.7000e-003	0.0000	9.7600	9.7600	1.0400e-003	6.7000e-004	9.9851
Unmitigated	0.0102	0.0111	0.0713	1.1000e-004	9.6200e-003	1.3000e-004	9.7400e-003	2.5800e-003	1.2000e-004	2.7000e-003	0.0000	9.7600	9.7600	1.0400e-003	6.7000e-004	9.9851

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		

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Quality Restaurant	22.00	22.00	22.00	26,126	26,126
Total	22.00	22.00	22.00	26,126	26,126

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
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Quality Restaurant	14.70	6.60	6.60	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.518054	0.061069	0.177567	0.134026	0.039945	0.009365	0.014425	0.006389	0.001127	0.000304	0.031388	0.001549	0.0047
Other Asphalt Surfaces	0.518054	0.061069	0.177567	0.134026	0.039945	0.009365	0.014425	0.006389	0.001127	0.000304	0.031388	0.001549	0.0047
Other Non-Asphalt Surfaces	0.518054	0.061069	0.177567	0.134026	0.039945	0.009365	0.014425	0.006389	0.001127	0.000304	0.031388	0.001549	0.0047
Parking Lot	0.518054	0.061069	0.177567	0.134026	0.039945	0.009365	0.014425	0.006389	0.001127	0.000304	0.031388	0.001549	0.0047
Quality Restaurant	0.518054	0.061069	0.177567	0.134026	0.039945	0.009365	0.014425	0.006389	0.001127	0.000304	0.031388	0.001549	0.0047

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr								MT/yr							
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.7525	8.7525	1.4200e-003	1.7000e-004	8.8391
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.7525	8.7525	1.4200e-003	1.7000e-004	8.8391
Natural Gas Mitigated	3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	31.0806	31.0806	6.0000e-004	5.7000e-004	31.2653
Natural Gas Unmitigated	3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	31.0806	31.0806	6.0000e-004	5.7000e-004	31.2653

5.2 Energy by Land Use - Natural Gas

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	tons/yr										MT/yr					
City Park	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
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
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
Quality Restaurant	582429	3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	31.0806	31.0806	6.0000e-004	5.7000e-004	31.2653
Total		3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	31.0806	31.0806	6.0000e-004	5.7000e-004	31.2653

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	tons/yr										MT/yr					
City Park	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
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
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
Quality Restaurant	582429	3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	31.0806	31.0806	6.0000e-004	5.7000e-004	31.2653
Total		3.1400e-003	0.0286	0.0240	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	31.0806	31.0806	6.0000e-004	5.7000e-004	31.2653

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4200	0.3886	6.0000e-005	1.0000e-005	0.3924

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Quality Restaurant	90397.7	8.3639	1.3500e-003	1.6000e-004	8.4466
Total		8.7525	1.4100e-003	1.7000e-004	8.8391

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4200	0.3886	6.0000e-005	1.0000e-005	0.3924
Quality Restaurant	90397.7	8.3639	1.3500e-003	1.6000e-004	8.4466
Total		8.7525	1.4100e-003	1.7000e-004	8.8391

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0161	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004
Unmitigated	0.0161	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.3300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004
Total	0.0161	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004

Mitigated

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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
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.3300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004
Total	0.0161	0.0000	3.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-004	6.0000e-004	0.0000	0.0000	6.4000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2247	0.0670	2.3000e-004	1.9675
Unmitigated	0.2247	0.0670	2.3000e-004	1.9675

7.2 Water by Land Use

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.238336	0.0772	1.0000e-005	0.0000	0.0779
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.29464 / 0	0.1475	0.0669	2.3000e-004	1.8895
Total		0.2247	0.0670	2.3000e-004	1.9675

Mitigated

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.238336	0.0772	1.0000e-005	0.0000	0.0779
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quality Restaurant	0.29464 / 0	0.1475	0.0669	2.3000e-004	1.8895
Total		0.2247	0.0670	2.3000e-004	1.9675

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.5217	0.0308	0.0000	1.2925
Unmitigated	0.5217	0.0308	0.0000	1.2925

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.56	0.5197	0.0307	0.0000	1.2874
Total		0.5217	0.0308	0.0000	1.2925

Mitigated

Land Use	Waste Disposed tons	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
City Park	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.56	0.5197	0.0307	0.0000	1.2874
Total		0.5217	0.0308	0.0000	1.2925

9.0 Operational Offroad

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
