APPENDIX C

CalEEMod Results

EMC PLANNING GROUP INC.
A LAND USE PLANNING & DESIGN FIRM

301 Lighthouse Avenue Suite C Monterey California 93940
Tel 831·649·1799 Fax 831·649·8399 www.emcplanning.com

To: **Teri Wissler Adam, Principal In Charge**

From: **Sally Rideout, Principal Planner**

Cc: **David Craft, File**

Date: **April 30 2021**

Re: **Project Garlic Industrial Project – Emissions Modeling Methodology, Assumptions, and Results**

PROJECT DESCRIPTION

The proposed Project Garlic subdivision project is located at the northeast corner of Pacheco Pass Highway (State Route 152) and Camino Arroyo, within the city limits of Gilroy. The project site is located within the North Central Coast Air Basin, which is within the jurisdiction of the Monterey Bay Air Resources District ("air district"). An EIR is being prepared to evaluate the environmental impacts of the proposed project. The proposed project would subdivide the 59.7-acre property into three lots and develop in three phases:

- Phase 1 – Development of a 141,360 square foot delivery station and offices on 31.4 acres;
- Phase 2 – Development of a 266,220 square foot industrial building and offices on 20.4 acres; and
- Phase 3 – A remainder 5.2-acre lot for future commercial uses.

Development of the remainder site is not currently proposed and not included in this assessment. The existing use of the site is agricultural row crop production. This assessment quantifies emissions from the proposed improvements associated with the development of Phase 1 and Phase 2 on a 54.5-acre site (proposed project).

SCOPE OF ASSESSMENT

This assessment provides, methodology, assumptions and an estimate of the proposed project's construction and operational criteria air pollutant emissions and operational greenhouse gas (GHG) emissions using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software, a modeling platform recommended by the California Air Resources Board (CARB) and accepted by the air district. The model results will inform the EIR discussions of air quality, greenhouse gas emissions (GHGs) and a community health risk assessment. Model results are attached to this assessment.

METHODOLOGY

Emissions Model

CalEEMod estimates construction emissions associated with land use development projects and allows for the input of project-specific construction information including phasing and equipment information. CalEEMod was used to estimate annual emissions for on-site and off-site construction activity. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The CalEEMod software utilizes emissions models USEPA AP-42 emission factors, CARB vehicle emission models studies and studies commissioned by other California agencies.

The CalEEMod platform allows calculations of both construction and operational criteria pollutant and GHG emissions from land use projects. The model also calculates indirect emissions from processes "downstream" of the proposed project such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

CalEEMod is capable of estimating changes in the carbon sequestration potential of a site based on changes in natural vegetation communities and the net number of new trees that would be planted as part of the project. The model calculates a one-time only loss in the carbon sequestration potential of the site that would result from changes in land use such as converting vegetation to built or paved surfaces, and can provide an estimate of the change in the carbon sequestration potential that would result from planting new trees in an amount that is greater than the number of trees to be removed (net number of new trees).

Project Characteristics

For modeling purposes, data inputs to the model take into account the type and size of proposed uses utilizing CalEEMod default land uses based on the size metrics shown on the project plans, construction data information provided by the project applicant and trip generation provided by the project's traffic engineer. Model results are attached to this memorandum. The two proposed project phases were modeled separately.

The size and type of proposed sources of criteria air pollutant and GHG emissions during construction and operations of Phase 1 and Phase 2 are categorized by the CalEEMod land use default categories as shown in Table 1, Project Characteristics.

Table 1 Project Characteristics

Project Components	CalEEMod Default Land Use[1]	Existing	Proposed[2]
Phase 1			
Warehouse Phase 1	Unrefrigerated Warehouse – No Rail	-	124,526
Office Phase 1	General Office Building	-	16,824
Surface Parking Lots/paved Access	Parking Lot	-	713,102
Access Roads and Paved Bike Path	Other Asphalt Surfaces	-	29,097
Concrete docks/pads/sidewalks	Other Non-asphalt Surfaces	-	174,330
Soil Import	-	-	110,000 cubic yards
Phase 2			
Warehouse Phase 2	Unrefrigerated Warehouse – No Rail	-	256,220
Office Phase 2	General Office Building	-	10,000
Surface Parking Lot Phase 2	Parking Lot	-	172,687
Concrete docks/pads/sidewalks Phase 2	Other Non-asphalt Surfaces	-	105,062
Soil Import	-	-	210,000 cubic yards
Carbon Sequestration Data			
Cropland	-	54.5 acres	0
Trees	Miscellaneous Species	-	391 trees

SOURCE: Trinity Consultants 2017, Kimley-Horn 2019; 2021, Ware-Malcom 2021.
NOTES:
1. CalEEMod default land use subtype. Descriptions of the model default land use categories and subtypes are found in the User's Guide for CalEEMod Version 2016.3.2 available online at: http://www.aqmd.gov/caleemod/user's-guide
2. Expressed in units of square feet unless otherwise noted.

Unless otherwise noted, model inputs are based upon the information provided by the applicant. Construction and operational criteria air pollutant and operational GHG emissions estimates are quantified based on the project characteristics information presented in Table 1.

Modeling Scenario

One modeling scenario was prepared to estimate unmitigated project criteria air pollutant and GHG emissions that are reduced through compliance with state and local regulations. This scenario estimates unmitigated construction and operational emissions including reduced emissions that are achieved through compliance with mandatory local and state regulations. Model adjustments are made that reflect compliance with State requirements for Model Water Efficient Landscape Ordinance ("MWELO") and Title 24 2019 Building Energy Efficiency Standards ("BEES") for operational emissions, and compliance with quantifiable air district best management practices during construction such as reducing speeds on unpaved roads and watering exposed soils at least twice per day. The MWELO and BEES adjustments are described in greater detail under the Operational Emissions Data Inputs discussion.

Assumptions

Unless otherwise noted, data inputs for the model scenarios are based on the following primary assumptions:

1. Construction and operational air pollutant and GHG emissions generated by the proposed project were estimated using the following CalEEMod default land use subtypes:
    a. Emissions generated by warehouse buildings are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "Unrefrigerated Warehouse – No Rail", which is defined as a warehouse that does not have refrigeration and no rail spur; and
    b. Emissions generated by the proposed office use (within the warehouses are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "General Office Building", which is

defined as a building where affairs of businesses commercial or industrial organizations or professional persons or firms are conducted.

c. Emissions generated by the proposed surface parking lot are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "Parking Lot", which is defined as a single surface parking lot typically covered with asphalt;

d. Emissions generated by the paved bike path and access roads are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "Other Asphalt Surfaces", which is defined as asphalt areas not included in parking;

e. Emissions generated by the construction of concrete loading docks and sidewalks are assumed to be similar to emissions generated by the CalEEMod default land use subtype "Other Non-asphalt Surfaces", which are defined as surfaces other than asphalt.

2. Construction data inputs by phase are based on information provided by the applicant (Kimley-Horn Email message April 12, 2021) for the number and type of construction equipment, cut and fill estimates, soil import volumes, days and hours of construction, and operational date.
3. The construction start date for Phase 1 is October 2021;
4. The estimated construction start date for Phase 2 is October 2022;
5. Construction is assumed to occur eight hours per day, five days per week;
6. Both phases would be fully operational in 2024; and
7. Changes to carbon sequestration potential were estimated based on the conversion of 54.5 acres of cultivated land and the proposed planting of 391 trees and were modeled under the Phase 2 when both phases would be fully operational.

Operational Emissions Data Input

The following adjustments were made to the model defaults to reflect regulatory updates and changes that have occurred since the model's release. The following adjustments were made:

- The model's default CO_2 intensity factor of 641 pounds/megawatt hour is adjusted to 206 pounds/megawatt hour to reflect Pacific Gas & Electric (PG&E) energy intensity factors for 2019, which is the most recent year reported for the provider's energy intensity factors. The intensity factor has been falling, in significant part due to the increasing percentage of PG&E's energy portfolio obtained from renewable energy. Emissions intensity data is from the California Energy Commission website.
- Each air district (or county) assigns trip lengths for urban and rural settings, which are incorporated into the CalEEMod defaults. The model's defaults were set to "urban" and the jurisdictional authority parameters are based on the model defaults for the air district.
- As noted previously, the model default trip generation rate is adjusted based on the information provided by the project traffic engineer (Hexagon Transportation Consultants 2021).
- The model was adjusted to account for project compliance with the State requirements for MWELO.
- The Title 24 BEES defaults in CalEEMod Version 2016.3.2 are the 2016 BEES. Title 24 BEES are updated every three years. The 2019 BEES became effective on January 1, 2020. Projects that build out after January 1, 2023 will be required to comply with 2022 BEES, which have not yet been developed. Compliance with the 2019 BEES increases non-residential building energy efficiencies by 30 percent over the 2016 BEES for non-residential buildings (California Energy Commission 2018). Adjustments are made to the energy mitigation screens for proposed conditions to account for Title 24 increases in energy efficiencies that have occurred since CalEEMod Version 2016.3.2 was released.

Construction Emissions Data Inputs

CalEEMod estimates construction emissions associated with land use development projects and allows for the input of project-specific construction information including phasing and equipment information, if known. CalEEMod default construction parameters allow estimates of short-term construction GHG emissions based upon empirical data collected and analyzed by the CARB. Use of the default construction emissions data for a proposed project is recommended by the air district if construction information is not yet available. The air district also recommends amortizing the short-term construction GHG emissions over a 30-year time period to yield an annual emissions volume.

Model adjustments to the model's default construction phases and numbers and types of equipment by phase were derived from construction information provided by the applicant (Kimley-Horn, personal communication. April 2021). Model results for each phase are attached to this memorandum.

Carbon Sequestration Potential Data Inputs

CalEEMod estimates a one-time only change in sequestration potential resulting from changes in natural communities. The proposed project would remove approximately 54.5 acres of cropland. Cropland is identified as a natural community with carbon sequestration value in the model; therefore, an estimate of the one-time loss in carbon sequestration value attributable to the loss of cropland is included in this assessment. CalEEMod also calculates the change in carbon sequestration potential based upon the net number of trees (the difference between trees removed and new tree plantings) on a site, averaged over a 20-year growth cycle. There are no trees on the project site; according to the proposed landscape plans, project landscaping includes planting 391 trees across both sites. Changes in sequestration potential are reported in metric tons of carbon dioxide equivalent (MT CO_2e).

RESULTS

Criteria air pollutant emissions results are reported in tons per year. GHG construction and operational emissions results are reported on an annual basis in MT CO_2e. Detailed model results for criteria air pollutants and GHG emissions for each development phase are attached to this memorandum.

Criteria Air Pollutants

Construction Emissions

Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Based on the applicant construction schedule and equipment usage, CalEEMod estimated emissions over 245 construction workdays for each phase. Unmitigated emissions generated by construction of the project are presented in Table 2, Unmitigated Construction DPM and Fugitive Dust Emissions.

Table 2 Unmitigated Annualized Daily Construction Emissions

Emissions	ROG[1]	NOx[1]	Total PM_{10}[1,2]	Exhaust PM_{10}[3]	Total $PM_{2.5}$[1,2]
Phase 1					
Maximum	1.499	4.073	0.613	0.117	0.247
Annualized Average Daily[4]	0.006	0.017	0.003	<0.001	0.001
Phase 2					
Maximum	1.675	2.216	0.248	0.075	0.145
Annualized Average Daily[4]	0.007	0.009	0.001	<0.001	<0.001

Source: CalEEMod Results 2021,
Note:
1. Emissions amounts are rounded and may vary.
2. Total PM emissions include exhaust particles and fugitive dust.
3. Exhaust PM_{10} is assumed to be DPM.
4. CalEEMod assumed 245 construction days per phase.

Operational Emissions

Unmitigated operational criteria air pollutant emissions resulting from project operations in are summarized in Table 2, Unmitigated Operational Criteria Air Pollutant Emissions.

Table 2 Operational Criteria Air Pollutant Emissions

Emissions[1]	Volatile Organic Gases (VOC)	Nitrogen Oxides (NO_X)	Sulfur Oxides (SO_2)	Suspended Particulate Matter (PM_{10})	$PM_{2.5}$	Carbon Monoxide (CO)
Phase 1						
Unmitigated Annual [1,2]	1.043	1.415	0.015	1.379	0.2469	3.678
Average Daily Emissions[1,3]	0.003	0.004	<0.001	0.004		0.01
Phase 2						
Unmitigated Annual [1,2]	1.457	1.205	0.013	1.168		3.112
Average Daily Emissions[1,3]	0.004	0.003	<0.001	0.003		0.009
Buildout Average Daily Emissions[1,3]	0.004	0.003	<0.001	0.005		0.019

SOURCE: EMC Planning Group 2020
NOTES:
1. Results may vary due to rounding.
2. Expressed in tons per year.
3. Assumed 365 days per year.

GHG Emissions

Construction GHG Emissions

From the CalEEMod results, construction GHG Emissions would be 1,115.15 MT CO_2e for Phase 1 and 899.71 MT CO_2e for Phase 2. Construction activity is estimated to generate a total of 2,014.86 MT CO_2e of unmitigated GHG emissions. When averaged over a 30-year operational lifetime, the annual amortized emissions equal 67.16 MT CO_2e per year.

Operational GHG Emissions

The model results for unmitigated annual GHG emissions generated by the proposed project under the "Baseline Scenario" are attached to this memorandum. The model results indicate

that at buildout of both phases, the proposed project would generate annual unmitigated operational GHG emissions of 3,104.05 MT CO_2e. Unmitigated annual GHG emissions volume estimates are summarized in Table 3, Unmitigated Operational GHG Emissions.

Table 3 Unmitigated Operational GHG Emissions

Emissions Sources[1,2]	CO_2e	
	Phase 1	Phase 2
Area	0.02	0.01
Energy[3]	116.25	143.92
Mobile	1,341.93	1,134.64
Waste	66.74	125.80
Water[4]	60.11	114.64
Total by Phase	1,585.04	1,519.01
Buildout	3,104.05	

SOURCE: EMC Planning Group 2020
NOTES:
1. Results may vary due to rounding.
2. Expressed in MT CO_2e per year.
3. Results include emissions reductions from compliance with 2019 BEES.
4. Results include emissions reductions from compliance with State thresholds for the MWELO

Carbon Sequestration Potential

Model results indicating the change in carbon sequestration potential on the project site are shown in Section 2.3 of the model results for each phase. Phase 1 would result in a loss of 211.61 MT CO_2e; Phase 2 would result in a gain of 144.33 MT CO_2e in sequestration potential. The model estimates a total net loss of 67.28 MT CO_2e sequestration potential over the lifetime of the project. Averaged over a 30-year lifetime, the annual loss in carbon sequestration potential associated with the proposed project would be 2.24 MT CO_2e per year. This amount is added to the project's annual operational GHG emissions.

Net Unmitigated GHG Emissions at Buildout

The GHG emissions that would be attributable to the proposed project at buildout of both phases consist of amortized construction emissions added to the operational emissions and the amortized annual loss in carbon sequestration potential on the site. The sum of

unmitigated GHG emissions attributable to the proposed project at buildout are presented in Table 4, Net Unmitigated Annual GHG Emissions Attributable to the Project.

Table 4 Net Unmitigated Annual GHG Emissions Attributable to the Project

Operational Emissions	Amortized Construction Emissions	Total Annual Project Emissions	Carbon Sequestration Potential	Net Project Emissions
3,104.05	67.16	3,171.21	2.24	3,173.45

SOURCE: EMC Planning Group 2020
NOTE: Results may vary due to rounding.

SOURCES

1. Trinity Consultants. November 2017. *California Emissions Estimator (CalEEMod) Version 2016.3.2*. http://www.aqmd.gov/caleemod/home
2. Trinity Consultants. November 2017. *CalEEMod User's Guide (Version 2016.3.2)*. http://www.aqmd.gov/caleemod/user's-guide
3. Bay Area Air Quality Management District. May 2017. *California Environmental Quality Act Air Quality Guidelines.* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en
4. Hexagon Transportation Consultants. *Project Garlic Delivery Station Transportation Analysis.* April 19, 2021.
5. California Energy Commission. March 2018. *2019 Building Energy Efficiency Standards Frequently Asked Questions*; Accessed April 5, 2021. https://ww2.energy.ca.gov/title24/2019standards/documents/Title_24_2019_Building_Standards_FAQ_ada.pdf
6. Ware Malcomb. January 6, 2021. Conceptual Site Plan Camino Arroyo and Renz. Gilroy, CA.
7. Kimley Horn. January 12, 2021. Project Garlic Civil and Landscape Plans. Sacramento, CA.
8. Bhatt, Sheetal K., P.E., Kimley-Horn. Email to City Staff, 12 April 2021.

Project Gilroy Phase I Construction and Operational Emissions

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	124.53	1000sqft	2.86	124,526.00	0
Other Non-Asphalt Surfaces	10.00	Acre	10.00	435,600.00	0
Parking Lot	608.45	1000sqft	13.97	608,450.00	0
Parking Lot	104.65	1000sqft	2.40	104,650.00	0
Other Asphalt Surfaces	18.25	1000sqft	0.42	18,250.00	0
Other Non-Asphalt Surfaces	126.32	1000sqft	2.90	126,320.00	0
Other Non-Asphalt Surfaces	10.85	1000sqft	0.25	10,850.00	0
Other Non-Asphalt Surfaces	48.01	1000sqft	1.10	48,010.00	0
General Office Building	16.82	1000sqft	0.39	16,824.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CEC records on Utility CO2 intensitities

Land Use - Project description (Panattoni)
Offices are ancillary to warehouse use

Construction Phase - From Construction spreadsheet.

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment -

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment - From construction spreadsheet

Trips and VMT -

Demolition - Unknown

Grading - From Construction Spreadsheet.

Energy Use -

Construction Off-road Equipment Mitigation -

Energy Mitigation - Default value is adjusted to represent current levels.

Vehicle Trips - From Traffic Engineer

Land Use Change -

Water Mitigation - Adjusted to meet State MWELO Requirements

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	5
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	740.00	160.00
tblConstructionPhase	NumDays	55.00	5.00
tblConstructionPhase	NumDays	55.00	40.00
tblConstructionPhase	PhaseEndDate	11/26/2021	11/5/2021
tblConstructionPhase	PhaseEndDate	3/11/2022	12/10/2021
tblConstructionPhase	PhaseEndDate	1/10/2025	7/22/2022
tblConstructionPhase	PhaseEndDate	3/28/2025	7/29/2022
tblConstructionPhase	PhaseEndDate	6/13/2025	9/23/2022
tblConstructionPhase	PhaseStartDate	11/27/2021	11/8/2021
tblConstructionPhase	PhaseStartDate	3/12/2022	12/11/2021

tblConstructionPhase	PhaseStartDate	1/11/2025	7/23/2022
tblConstructionPhase	PhaseStartDate	3/29/2025	7/30/2022
tblGrading	AcresOfGrading	75.00	25.00
tblGrading	MaterialImported	0.00	110.00
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Graders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	WorkerTripNumber	20.00	13.00
tblTripsAndVMT	WorkerTripNumber	20.00	13.00
tblTripsAndVMT	WorkerTripNumber	30.00	25.00
tblVehicleTrips	WD_TR	1.68	12.05
tblVehicleTrips	WD_TR	11.03	12.05

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	0.1483	1.5426	1.0049	2.5600e-003	0.2952	0.0604	0.3556	0.1334	0.0560	0.1894	0.0000	228.6653	228.6653	0.0462	0.0000	229.8209
2022	1.4988	4.0730	3.9217	0.0123	0.4954	0.1172	0.6126	0.1345	0.1124	0.2469	0.0000	1,112.8441	1,112.8441	0.0921	0.0000	1,115.1472
Maximum	**1.4988**	**4.0730**	**3.9217**	**0.0123**	**0.4954**	**0.1172**	**0.6126**	**0.1345**	**0.1124**	**0.2469**	**0.0000**	**1,112.8441**	**1,112.8441**	**0.0921**	**0.0000**	**1,115.1472**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-18-2021**	**1-17-2022**	1.9668	1.9668
2	**1-18-2022**	**4-17-2022**	1.9155	1.9155
3	**4-18-2022**	**7-17-2022**	1.9213	1.9213
4	**7-18-2022**	**9-30-2022**	1.3688	1.3688
		Highest	1.9668	1.9668

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	0.7423	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0191	0.0191	5.0000e-005	0.0000	0.0203
Energy	2.6900e-003	0.0244	0.0205	1.5000e-004		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003	0.0000	115.0108	115.0108	0.0130	3.0600e-003	116.2475
Mobile	0.2980	1.3905	3.6473	0.0146	1.3656	0.0118	1.3773	0.3665	0.0110	0.3774	0.0000	1,340.8330	1,340.8330	0.0439	0.0000	1,341.9299
Waste						0.0000	0.0000		0.0000	0.0000	26.9369	0.0000	26.9369	1.5919	0.0000	66.7350
Water						0.0000	0.0000		0.0000	0.0000	10.0846	16.6343	26.7189	1.0381	0.0249	60.1045
Total	**1.0430**	**1.4150**	**3.6776**	**0.0147**	**1.3656**	**0.0137**	**1.3792**	**0.3665**	**0.0129**	**0.3793**	**37.0215**	**1,472.4972**	**1,509.5187**	**2.6869**	**0.0280**	**1,585.0373**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-211.6060
Total	**-211.6060**

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,500.54	209.20	209.20	3,303,677	3,303,677
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Other Non-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		
Parking Lot	0.00	0.00	0.00		
General Office Building	202.73	41.39	17.67	366,212	366,212
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	1,703.27	250.59	226.87	3,669,889	3,669,889

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	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
Parking Lot	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Unrefrigerated Warehouse-No Rail	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Other Asphalt Surfaces	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Other Non-Asphalt Surfaces	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
General Office Building	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

5.0 Energy Detail

Exceed Title 24

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					
General Office Building	193089	1.0400e-003	9.4700e-003	7.9500e-003	6.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	10.3040	10.3040	2.0000e-004	1.9000e-004	10.3652
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
Unrefrigerated Warehouse-No Rail	305089	1.6500e-003	0.0150	0.0126	9.0000e-005		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	16.2807	16.2807	3.1000e-004	3.0000e-004	16.3774

Total		**2.6900e-003**	**0.0244**	**0.0205**	**1.5000e-004**		**1.8600e-003**	**1.8600e-003**		**1.8600e-003**	**1.8600e-003**	**0.0000**	**26.5847**	**26.5847**	**5.1000e-004**	**4.9000e-004**	**26.7426**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	269134	25.1478	3.5400e-003	7.3000e-004	25.4546
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	212958	19.8988	2.8000e-003	5.8000e-004	20.1415
Parking Lot	36627.5	3.4225	4.8000e-004	1.0000e-004	3.4642
Unrefrigerated Warehouse-No	427622	39.9570	5.6300e-003	1.1600e-003	40.4445
Total		**88.4261**	**0.0125**	**2.5700e-003**	**89.5048**

6.0 Area Detail

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	0.1019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6395					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-004	9.0000e-005	9.8000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0191	0.0191	5.0000e-005	0.0000	0.0203
Total	**0.7423**	**9.0000e-005**	**9.8000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0191**	**0.0191**	**5.0000e-005**	**0.0000**	**0.0203**

7.0 Water Detail

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.98948 / 1.72049	3.0226	0.0977	2.3600e-003	6.1686
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
Unrefrigerated Warehouse-No Rail	28.7976 / 0	23.6963	0.9404	0.0226	53.9359
Total		**26.7189**	**1.0381**	**0.0249**	**60.1045**

8.0 Waste Detail

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	15.64	3.1748	0.1876	0.0000	7.8654
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
Unrefrigerated Warehouse-No Rail	117.06	23.7621	1.4043	0.0000	58.8697

Total		**26.9369**	**1.5919**	**0.0000**	**66.7350**

11.0 Vegetation

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	34.13 / 0	-211.6060	0.0000	0.0000	-211.6060
Total		**-211.6060**	**0.0000**	**0.0000**	**-211.6060**

Project Gilroy Phase 2 Construction and Operational Emissions - Bay Area AQMD Air District, Annual

Project Gilroy Phase 2 Construction and Operational Emissions

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	10.00	1000sqft	0.23	10,000.00	0
Unrefrigerated Warehouse-No Rail	256.22	1000sqft	5.88	256,220.00	0
Other Non-Asphalt Surfaces	105.06	1000sqft	2.41	105,062.00	0
Parking Lot	172.69	1000sqft	3.96	172,687.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CEC records on Utility CO2 intensitities

Land Use - Project description (Panattoni)
Offices are ancillary to warehouse use

Construction Phase - From Construction spreadsheet.

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment -

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment - From Construction Spreadsheet.

Off-road Equipment - From construction spreadsheet

Trips and VMT -

Demolition - Unknown

Grading - From Construction Spreadsheet.

Vehicle Trips - From Traffic Engineer

Energy Use -

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation - This mix of conventional and Tier 4 engines will reduce DPM by approximately 50%.

Energy Mitigation - Default value is adjusted to represent current levels.

Water Mitigation - Adjusted to meet State MWELO Requirements

Operational Off-Road Equipment - Based on fleet data from a similar project (PFG) Distribution Center

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	5
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	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	160.00
tblConstructionPhase	NumDays	30.00	25.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	10.00	15.00
tblGrading	AcresOfGrading	75.00	25.00
tblGrading	MaterialImported	0.00	21,000.00
tblLandUse	LandUseSquareFeet	105,060.00	105,062.00
tblLandUse	LandUseSquareFeet	172,690.00	172,687.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206

tblSequestration	NumberOfNewTrees	0.00	391.00
tblVehicleTrips	WD_TR	11.03	4.96
tblVehicleTrips	WD_TR	1.68	4.96

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					
2022	0.2165	2.2166	1.8062	5.1400e-003	0.2006	0.0753	0.2759	0.0732	0.0714	0.1446	0.0000	463.4671	463.4671	0.0609	0.0000	464.9883
2023	1.6777	1.9673	2.0903	4.9100e-003	0.2677	0.0761	0.3437	0.1071	0.0724	0.1795	0.0000	433.1921	433.1921	0.0610	0.0000	434.7161
Maximum	**1.6777**	**2.2166**	**2.0903**	**5.1400e-003**	**0.2677**	**0.0761**	**0.3437**	**0.1071**	**0.0724**	**0.1795**	**0.0000**	**463.4671**	**463.4671**	**0.0610**	**0.0000**	**464.9883**

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	1.2028	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7200e-003	9.7200e-003	3.0000e-005	0.0000	0.0104
Energy	4.0000e-003	0.0364	0.0306	2.2000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003	0.0000	142.4324	142.4324	0.0152	3.7200e-003	143.9220
Mobile	0.2500	1.1685	3.0765	0.0123	1.1557	9.9400e-003	1.1656	0.3102	9.2700e-003	0.3194	0.0000	1,133.7116	1,133.7116	0.0370	0.0000	1,134.6367
Waste						0.0000	0.0000		0.0000	0.0000	50.7782	0.0000	50.7782	3.0009	0.0000	125.8008
Water						0.0000	0.0000		0.0000	0.0000	19.3614	31.1906	50.5521	1.9930	0.0479	114.6404

Total	**1.4567**	**1.2050**	**3.1120**	**0.0126**	**1.1557**	**0.0127**	**1.1684**	**0.3102**	**0.0121**	**0.3222**	**70.1396**	**1,307.3443**	**1,377.4839**	**5.0462**	**0.0516**	**1,519.0102**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	276.8280
Vegetation Land Change	-132.4940
Total	**144.3340**

4.0 Operational Detail - 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					
Unmitigated	0.2500	1.1685	3.0765	0.0123	1.1557	9.9400e-003	1.1656	0.3102	9.2700e-003	0.3194	0.0000	1,133.7116	1,133.7116	0.0370	0.0000	1,134.6367

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	49.60	24.60	10.50	96,648	96,648
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,270.85	430.45	430.45	3,009,247	3,009,247
Total	1,320.45	455.05	440.95	3,105,895	3,105,895

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Other Non-Asphalt Surfaces	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Parking Lot	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Unrefrigerated Warehouse-No Rail	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

5.0 Energy Detail

Historical Energy Use: N

Exceed Title 24

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					
General Office Building	114770	6.2000e-004	5.6300e-003	4.7300e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	6.1246	6.1246	1.2000e-004	1.1000e-004	6.1610
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
Unrefrigerated Warehouse-No Rail	627739	3.3800e-003	0.0308	0.0259	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003	0.0000	33.4985	33.4985	6.4000e-004	6.1000e-004	33.6976
Total		**4.0000e-003**	**0.0364**	**0.0306**	**2.1000e-004**		**2.7700e-003**	**2.7700e-003**		**2.7700e-003**	**2.7700e-003**	**0.0000**	**39.6231**	**39.6231**	**7.6000e-004**	**7.2000e-004**	**39.8586**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
General Office Building	159970	14.9476	2.1000e-003	4.4000e-004	15.1300
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	60440.4	5.6476	8.0000e-004	1.6000e-004	5.7165
Unrefrigerated Warehouse-No Rail	879859	82.2141	0.0116	2.3900e-003	83.2170
Total		**102.8093**	**0.0145**	**2.9900e-003**	**104.0634**

6.0 Area Detail

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	1.2028	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7200e-003	9.7200e-003	3.0000e-005	0.0000	0.0104

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	0.1446					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0577					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.6000e-004	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.7200e-003	9.7200e-003	3.0000e-005	0.0000	0.0104
Total	**1.2028**	**5.0000e-005**	**4.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.7200e-003**	**9.7200e-003**	**3.0000e-005**	**0.0000**	**0.0104**

7.0 Water Detail

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
General Office Building	1.77734 / 1.02289	1.7970	0.0581	1.4000e-003	3.6674
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
Unrefrigerated Warehouse-No Rail	59.2509 / 0	48.7551	1.9349	0.0465	110.9729
Total		**50.5521**	**1.9930**	**0.0479**	**114.6404**

8.0 Waste Detail

8.1 Mitigation Measures Waste

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	50.7782	3.0009	0.0000	125.8008

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	9.3	1.8878	0.1116	0.0000	4.6770
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	240.85	48.8904	2.8893	0.0000	121.1238
Total		**50.7782**	**3.0009**	**0.0000**	**125.8008**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	144.3340	0.0000	0.0000	144.3340

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	21.37 / 0	-132.4940	0.0000	0.0000	-132.4940
Total		**-132.4940**	**0.0000**	**0.0000**	**-132.4940**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	391	276.8280	0.0000	0.0000	276.8280
Total		**276.8280**	**0.0000**	**0.0000**	**276.8280**

Appendix
EMFAC2021 Fuel Demand

Phase 1

Diesel	
Vehicle Class	**Kgal/Day**
LDA	4.06E-01
LDT1	0.002329
LDT2	0.129454
MDV	0.368218
LHD1	1.75389
LHD2	0.774305
T6 Ag	0.000143
T6 Public	0.125061
T6 CAIRP Small	0.007303
T6 CAIRP Heavy	0.051471
T6 Instate Constructi	0.329124
T6 Instate Constructi	0.145603
T6 Instate Small	2.517973
T6 Instate Heavy	1.347732
T6 OOS Small	0.004146
T6 OOS Heavy	0.029115
T6 Utility	0.018502
T7 Ag	1.75E-10
T7 Public	0.172731
PTO	0.240468
T7 CAIRP	1.716963
T7 CAIRP Constructio	0.145411
T7 Utility	0.016336
T7 NNOOS	1.99723
T7 NOOS	0.673984
T7 Other Port	0.2405
T7 POAK	1.354577
T7 POLA	1.84E-09
T7 Single	0.920648
T7 Single Constructio	0.383904
T7 Tractor	3.057432
T7 Tractor Constructi	0.318474
T7 SWCV	0.91961
UBUS	0.783384
SBUS	0.286181
Motor Coach	0.150035
All Other Buses	0.357459
MH	0.076007
LHD1	0.011084
LHD2	0.007059
T6 Ag	4.32E-06
T6 Public	0.023154
T6 CAIRP Small	9.06E-05

Diesel	
Vehicle Class	**Kgal/Day**
T6 Instate Constructi	0.001124
T6 Instate Small	0.032082
T6 Instate Heavy	0.006476
T6 OOS Small	5.21E-05
T6 OOS Heavy	9.96E-05
T6 Utility	0.001804
T7 Ag	1.38E-11
T7 Public	0.015525
T7 CAIRP	0.182576
T7 CAIRP Constructio	0.00184
T7 Utility	0.000833
T7 NNOOS	0.232014
T7 NOOS	0.089815
T7 Other Port	0.003828
T7 POAK	0.046755
T7 POLA	7.22E-11
T7 Single	0.04742
T7 Single Constructio	0.011502
T7 Tractor	0.075067
T7 Tractor Constructi	0.010063
T7 SWCV	0.026115
SBUS	0.029286
Motor Coach	0.008246
All Other Buses	0.003337
Diesel kgal/Day	**21.46066**
Diesel kgal/Year	**7833.139**

T6 CAIRP Heavy	0.000177
T6 Instate Constructi	0.003385
Gasoline	
Vehicle Class	**Kgal/Day**
LDA	64.05097
LDT1	6.829707
LDT2	25.83882
MDV	18.29375
LHD1	5.340176
LHD2	0.820607
T6TS	1.162688
T7IS	0.009014
UBUS	0.022881
SBUS	0.088462
OBUS	0.40665
MCY	0.462613
MH	0.431905
LHD1	0.018537
LHD2	0.002858
T6TS	0.006986
SBUS	0.005623
OBUS	0.001759
LDA	1.761297
LDT1	0.201373
LDT2	0.778718
MDV	0.569483
LHD1	0.043323
LHD2	0.006604
T6TS	0.010399
T7IS	4.49E-05
UBUS	3.23E-05
SBUS	0.000426
OBUS	0.002468
MCY	0.036433
MH	7.11E-05

Gas Kgal/Day	**127.2047**	
Gas Kgal/Year	**46429.71**	**46429710.45**

Appendix
EMFAC2021 Fuel Demand Project Garlic

Phase 2

Diesel Vehicle Class	Demand Kgal/Day
LDA	0.343934
LDT1	0.001971
LDT2	0.10956
MDV	0.31163
LHD1	1.48435
LHD2	0.655309
T6 Ag	0.000121
T6 Public	0.105842
T6 CAIRP Small	0.006181
T6 CAIRP Heavy	0.043561
T6 Instate Constr	0.278543
T6 Instate Constr	0.123226
T6 Instate Small	2.131007
T6 Instate Heavy	1.14061
T6 OOS Small	0.003509
T6 OOS Heavy	0.024641
T6 Utility	0.015659
T7 Ag	1.48E-10
T7 Public	0.146185
PTO	0.203512
T7 CAIRP	1.453097
T7 CAIRP Constru	0.123064
T7 Utility	0.013825
T7 NNOOS	1.690292
T7 NOOS	0.570405
T7 Other Port	0.20354
T7 POAK	1.146403
T7 POLA	1.56E-09
T7 Single	0.779162
T7 Single Constru	0.324905
T7 Tractor	2.587561
T7 Tractor Constr	0.269531
T7 SWCV	0.778283
UBUS	0.662992
SBUS	0.2422
Motor Coach	0.126977
All Other Buses	0.302524
MH	0.064326
LHD1	0.009381
LHD2	0.005974
T6 Ag	3.65E-06
T6 Public	0.019595

Diesel Vehicle Class	Demand Kgal?day
T6 Instate Constru	0.002865
T6 Instate Constru	0.000952
T6 Instate Small	0.027151
T6 Instate Heavy	0.005481
T6 OOS Small	4.41E-05
T6 OOS Heavy	8.43E-05
T6 Utility	0.001527
T7 Ag	1.17E-11
T7 Public	0.013139
T7 CAIRP	0.154517
T7 CAIRP Construc	0.001557
T7 Utility	0.000705
T7 NNOOS	0.196358
T7 NOOS	0.076012
T7 Other Port	0.00324
T7 POAK	0.039569
T7 POLA	6.11E-11
T7 Single	0.040133
T7 Single Construc	0.009734
T7 Tractor	0.063531
T7 Tractor Constru	0.008516
T7 SWCV	0.022102
SBUS	0.024786
Motor Coach	0.006978
All Other Buses	0.002824
Diesel Kgal/day	**18.50362**
Diesel Kgal/year	**6753.821**

Appendix
EMFAC2021 Fuel Demand Project Garlic

T6 CAIRP Small	7.67E-05
T6 CAIRP Heavy	0.00015
Gasoline	**Demand**
Vehicle Class	**Kgal/Day**
LDA	54.20752
LDT1	5.780107
LDT2	21.86787
MDV	15.48234
LHD1	4.51949
LHD2	0.694495
T6TS	0.984005
T7IS	0.007629
UBUS	0.019365
SBUS	0.074867
OBUS	0.344155
MCY	0.391518
MH	0.365529
LHD1	0.015688
LHD2	0.002419
T6TS	0.005912
SBUS	0.004759
OBUS	0.001489
LDA	1.490619
LDT1	0.170426
LDT2	0.659043
MDV	0.481964
LHD1	0.036665
LHD2	0.005589
T6TS	0.008801
T7IS	3.80E-05
UBUS	2.73E-05
SBUS	0.00036
OBUS	0.002088
MCY	0.030834
MH	6.02E-05
Gas Kgal/day	**107.6557**
Gas Kgal/year	**39294.32 39294323**