

Revised Appendix 3.2-1
Air Quality and Greenhouse Gas Analysis Details

Existing Operational CalEEMod Output

777 Middlefield EIR Existing - Santa Clara County, Summer

777 Middlefield EIR Existing

Santa Clara County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	406.00	Space	3.65	40,134.00	0
Apartments Low Rise	208.00	Dwelling Unit	13.00	226,086.00	595

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	361.5	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - GHG intensity factors calculated in PGE Construction Electricity_Water Calcs.xlsx spreadsheet

Land Use - Data from PD

Construction Phase - Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Trips and VMT - No Construction Equipment; for Existing Operations Only

Demolition - No Construction Equipment; for Existing Operations Only

Grading - No Construction Equipment; for Existing Operations Only

Vehicle Trips - Email from Kai-ling Kuo 07/23 to Jessica Viramontes regarding revised existing trip generation numbers

Woodstoves - Per BAAQMD Reg 6 Rule 3, no wood burning devices shall be installed after 2016. The # Wood Fireplaces were added to the # Gas Fireplaces after being removed out
Energy Use -

Land Use Change -

Sequestration -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	NumberGas	31.20	66.56
tblFireplaces	NumberWood	35.36	0.00
tblLandUse	LandUseSquareFeet	162,400.00	40,134.00
tblLandUse	LandUseSquareFeet	208,000.00	226,086.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

[illegible]

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	641.35	361.5
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	VendorTripNumber	29.00	0.00
tblTripsAndVMT	VendorTripNumber	29.00	0.00
tblTripsAndVMT	VendorTripNumber	29.00	0.00
tblTripsAndVMT	WorkerTripNumber	167.00	0.00
tblTripsAndVMT	WorkerTripNumber	167.00	0.00
tblTripsAndVMT	WorkerTripNumber	167.00	0.00
tblTripsAndVMT	WorkerTripNumber	33.00	0.00
tblVehicleTrips	ST_TR	7.16	7.32
tblVehicleTrips	SU_TR	6.07	7.32
tblVehicleTrips	WD_TR	6.59	7.32
tblWoodstoves	NumberCatalytic	4.16	0.00
tblWoodstoves	NumberNoncatalytic	4.16	0.00

2.0 Emissions Summary

Unmitigated Construction

Mitigated Construction

[illegible]

	ROG	NOx	CO	SO2	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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.4166	1.4891	17.8718	9.1300e-003		0.1986	0.1986		0.1986	0.1986	0.0000	1,675.4113	1,675.4113	0.0624	0.0302	1,685.9549
Energy	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218
Mobile	3.1395	10.6164	33.6750	0.0928	7.4404	0.1048	7.5452	1.9865	0.0987	2.0852		9,334.4808	9,334.4808	0.3603		9,343.4881
Total	9.6188	12.6411	51.7747	0.1054	7.4404	0.3467	7.7871	1.9865	0.3406	2.3271	0.0000	11,693.6506	11,693.6506	0.4358	0.0427	11,717.2647

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.4166	1.4891	17.8718	9.1300e-003		0.1986	0.1986		0.1986	0.1986	0.0000	1,675.4113	1,675.4113	0.0624	0.0302	1,685.9549
Energy	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218
Mobile	3.1395	10.6164	33.6750	0.0928	7.4404	0.1048	7.5452	1.9865	0.0987	2.0852		9,334.4808	9,334.4808	0.3603		9,343.4881
Total	9.6188	12.6411	51.7747	0.1054	7.4404	0.3467	7.7871	1.9865	0.3406	2.3271	0.0000	11,693.6506	11,693.6506	0.4358	0.0427	11,717.2647

	ROG	NOx	CO	SO2	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	Grading and Mass Excavation - Demo only	Demolition	1/1/2018	12/31/2017	5	0	
2	Site Preparation	Site Preparation	1/27/2018	1/26/2018	5	0	
3	Grading and Mass Excavation	Grading	2/10/2018	2/9/2018	5	0	
4	Below Grade Construction	Building Construction	3/24/2018	3/23/2018	5	0	
5	Frame/Roofing/Exterior Finishes	Building Construction	5/18/2019	5/17/2019	5	0	
6	Plumbing/Electrical/Drywall	Building Construction	7/11/2020	7/10/2020	5	0	
7	Finishes	Architectural Coating	9/4/2021	9/3/2021	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.65

Residential Indoor: 457,824; Residential Outdoor: 152,608; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading and Mass Excavation - Demo only	Concrete/Industrial Saws	0	0.00	81	0.73
Grading and Mass Excavation - Demo only	Excavators	0	0.00	158	0.38
Grading and Mass Excavation - Demo only	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading and Mass Excavation	Excavators	0	0.00	158	0.38
Grading and Mass Excavation	Graders	0	0.00	187	0.41

Grading and Mass Excavation	Rubber Tired Dozers	0	0.00	247	0.40
Grading and Mass Excavation	Scrapers	0	0.00	367	0.48
Grading and Mass Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Cranes	0	0.00	231	0.29
Below Grade Construction	Forklifts	0	0.00	89	0.20
Below Grade Construction	Generator Sets	0	0.00	84	0.74
Below Grade Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Welders	0	0.00	46	0.45
Frame/Roofing/Exterior Finishes	Cranes	0	0.00	231	0.29
Frame/Roofing/Exterior Finishes	Forklifts	0	0.00	89	0.20
Frame/Roofing/Exterior Finishes	Generator Sets	0	0.00	84	0.74
Frame/Roofing/Exterior Finishes	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Frame/Roofing/Exterior Finishes	Welders	0	0.00	46	0.45
Plumbing/Electrical/Drywall	Cranes	0	0.00	231	0.29
Plumbing/Electrical/Drywall	Forklifts	0	0.00	89	0.20
Plumbing/Electrical/Drywall	Generator Sets	0	0.00	84	0.74
Plumbing/Electrical/Drywall	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Plumbing/Electrical/Drywall	Welders	0	0.00	46	0.45
Finishes	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading and Mass Excavation - Demo	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Mass Excavation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Below Grade Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Frame/Roofing/Exterior Finishes	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Plumbing/Electrical/Drywall	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishes	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

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

3.4 Grading and Mass Excavation - 2018

Unmitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.5 Below Grade Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

3.6 Frame/Roofing/Exterior Finishes - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

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

3.7 Plumbing/Electrical/Drywall - 2020

Unmitigated Construction On-Site

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

[illegible]

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Mitigated Construction Off-Site

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

3.8 Finishes - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.1395	10.6164	33.6750	0.0928	7.4404	0.1048	7.5452	1.9865	0.0987	2.0852		9,334.4808	9,334.4808	0.3603		9,343.4881
Unmitigated	3.1395	10.6164	33.6750	0.0928	7.4404	0.1048	7.5452	1.9865	0.0987	2.0852		9,334.4808	9,334.4808	0.3603		9,343.4881

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,522.56	1,522.56	1522.56	3,516,516	3,516,516
Parking Lot	0.00	0.00	0.00		
Total	1,522.56	1,522.56	1,522.56	3,516,516	3,516,516

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.596719	0.040200	0.188056	0.111125	0.016796	0.004948	0.012194	0.019466	0.002007	0.001626	0.005410	0.000612	0.000841
Parking Lot	0.596719	0.040200	0.188056	0.111125	0.016796	0.004948	0.012194	0.019466	0.002007	0.001626	0.005410	0.000612	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218
NaturalGas Unmitigated	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218

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	lb/day										lb/day					
Apartments Low Rise	5811.95	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Total		0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218
-------	--	--------	--------	--------	-------------	--	--------	--------	--	--------	--------	--	----------	----------	--------	--------	----------

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	5.81195	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433		683.7585	683.7585	0.0131	0.0125	687.8218

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.4166	1.4891	17.8718	9.1300e-003		0.1986	0.1986		0.1986	0.1986	0.0000	1,675.4113	1,675.4113	0.0624	0.0302	1,685.9549
Unmitigated	6.4166	1.4891	17.8718	9.1300e-003		0.1986	0.1986		0.1986	0.1986	0.0000	1,675.4113	1,675.4113	0.0624	0.0302	1,685.9549

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8767					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8525					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1507	1.2881	0.5481	8.2200e-003		0.1042	0.1042		0.1042	0.1042	0.0000	1,644.4235	1,644.4235	0.0315	0.0302	1,654.1955
Landscaping	0.5367	0.2010	17.3236	9.1000e-004		0.0945	0.0945		0.0945	0.0945		30.9877	30.9877	0.0309		31.7594
Total	6.4166	1.4891	17.8718	9.1300e-003		0.1986	0.1986		0.1986	0.1986	0.0000	1,675.4113	1,675.4113	0.0624	0.0302	1,685.9549

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8767					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8525					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1507	1.2881	0.5481	8.2200e-003		0.1042	0.1042		0.1042	0.1042	0.0000	1,644.4235	1,644.4235	0.0315	0.0302	1,654.1955
Landscaping	0.5367	0.2010	17.3236	9.1000e-004		0.0945	0.0945		0.0945	0.0945		30.9877	30.9877	0.0309		31.7594
Total	6.4166	1.4891	17.8718	9.1300e-003		0.1986	0.1986		0.1986	0.1986	0.0000	1,675.4113	1,675.4113	0.0624	0.0302	1,685.9549

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

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

11.0 Vegetation

777 Middlefield EIR Existing - Santa Clara County, Annual

777 Middlefield EIR Existing

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	406.00	Space	3.65	40,134.00	0
Apartments Low Rise	208.00	Dwelling Unit	13.00	226,086.00	595

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	361.5	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - GHG intensity factors calculated in PGE Construction Electricity_Water Calcs.xlsx spreadsheet

Land Use - Data from PD

Construction Phase - Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Off-road Equipment - No Construction Equipment; for Existing Operations Only

Trips and VMT - No Construction Equipment; for Existing Operations Only

Demolition - No Construction Equipment; for Existing Operations Only

Grading - No Construction Equipment; for Existing Operations Only

Vehicle Trips - Email from Kai-ling Kuo 07/23 to Jessica Viramontes regarding revised existing trip generation numbers

Woodstoves - Per BAAQMD Reg 6 Rule 3, no wood burning devices shall be installed after 2016. The # Wood Fireplaces were added to the # Gas Fireplaces after being removed out

Energy Use -

Land Use Change -

Sequestration -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	NumberGas	31.20	66.56
tblFireplaces	NumberWood	35.36	0.00
tblLandUse	LandUseSquareFeet	162,400.00	40,134.00
tblLandUse	LandUseSquareFeet	208,000.00	226,086.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	641.35	361.5
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	VendorTripNumber	29.00	0.00
tblTripsAndVMT	VendorTripNumber	29.00	0.00
tblTripsAndVMT	VendorTripNumber	29.00	0.00
tblTripsAndVMT	WorkerTripNumber	167.00	0.00
tblTripsAndVMT	WorkerTripNumber	167.00	0.00
tblTripsAndVMT	WorkerTripNumber	167.00	0.00
tblTripsAndVMT	WorkerTripNumber	33.00	0.00
tblVehicleTrips	ST_TR	7.16	7.32
tblVehicleTrips	SU_TR	6.07	7.32
tblVehicleTrips	WD_TR	6.59	7.32
tblWoodstoves	NumberCatalytic	4.16	0.00
tblWoodstoves	NumberNoncatalytic	4.16	0.00

2.0 Emissions Summary

Unmitigated Construction

Mitigated Construction

[illegible]

	ROG	NOx	CO	SO2	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)
		Highest		

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	1.0947	0.0253	1.5622	1.30E-04		9.08E-03	9.08E-03		9.08E-03	9.08E-03	0	10.8394	10.8394	2.68E-03	1.50E-04	10.9517
Energy	0.0114	0.0978	0.0416	6.20E-04		7.90E-03	7.90E-03		7.90E-03	7.90E-03	0	263.8296	263.8296	0.0159	3.74E-03	265.3428
Mobile	0.5019	2.0097	5.8767	0.0159	1.308	0.0191	1.3271	0.3502	0.018	0.3682	0	1,451.56	1,451.56	0.0586	0	1,453.02
Waste						0	0		0	0	19.4222	0	19.4222	1.1478	0	48.1176
Water						0	0		0	0	4.2994	16.9275	21.2269	0.4431	0.0106	35.4684
Total	1.6081	2.1328	7.4805	0.0167	1.308	0.0361	1.3441	0.3502	0.035	0.3852	23.7216	1,743.16	1,766.88	1.6682	0.0145	1,812.91

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	1.0947	0.0253	1.5622	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	10.8394	10.8394	2.6800e-003	1.5000e-004	10.9517

Energy	0.0114	0.0978	0.0416	6.2000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003	0.0000	263.8296	263.8296	0.0159	3.7400e-003	265.3428
Mobile	0.5019	2.0097	5.8767	0.0159	1.3080	0.0191	1.3271	0.3502	0.0180	0.3682	0.0000	1,451.5589	1,451.5589	0.0586	0.0000	1,453.0248
Waste						0.0000	0.0000		0.0000	0.0000	19.4222	0.0000	19.4222	1.1478	0.0000	48.1176
Water						0.0000	0.0000		0.0000	0.0000	4.2994	16.9275	21.2269	0.4431	0.0106	35.4684
Total	1.6081	2.1328	7.4805	0.0167	1.3080	0.0361	1.3441	0.3502	0.0350	0.3852	23.7216	1,743.1554	1,766.8770	1.6682	0.0145	1,812.9054

	ROG	NOx	CO	SO2	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

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	0.0000
Total	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading and Mass Excavation - Demo only	Demolition	1/1/2018	12/31/2017	5	0	
2	Site Preparation	Site Preparation	1/27/2018	1/26/2018	5	0	
3	Grading and Mass Excavation	Grading	2/10/2018	2/9/2018	5	0	

4	Below Grade Construction	Building Construction	3/24/2018	3/23/2018	5	0
5	Frame/Roofing/Exterior Finishes	Building Construction	5/18/2019	5/17/2019	5	0
6	Plumbing/Electrical/Drywall	Building Construction	7/11/2020	7/10/2020	5	0
7	Finishes	Architectural Coating	9/4/2021	9/3/2021	5	0

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.65

Residential Indoor: 457,824; Residential Outdoor: 152,608; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading and Mass Excavation - Demo only	Concrete/Industrial Saws	0	0.00	81	0.73
Grading and Mass Excavation - Demo only	Excavators	0	0.00	158	0.38
Grading and Mass Excavation - Demo only	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading and Mass Excavation	Excavators	0	0.00	158	0.38
Grading and Mass Excavation	Graders	0	0.00	187	0.41
Grading and Mass Excavation	Rubber Tired Dozers	0	0.00	247	0.40
Grading and Mass Excavation	Scrapers	0	0.00	367	0.48
Grading and Mass Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Cranes	0	0.00	231	0.29
Below Grade Construction	Forklifts	0	0.00	89	0.20
Below Grade Construction	Generator Sets	0	0.00	84	0.74
Below Grade Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Welders	0	0.00	46	0.45
Frame/Roofing/Exterior Finishes	Cranes	0	0.00	231	0.29
Frame/Roofing/Exterior Finishes	Forklifts	0	0.00	89	0.20
Frame/Roofing/Exterior Finishes	Generator Sets	0	0.00	84	0.74

Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

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

3.4 Grading and Mass Excavation - 2018

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

3.5 Below Grade Construction - 2018

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Unmitigated Construction Off-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

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

3.7 Plumbing/Electrical/Drywall - 2020

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

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

3.8 Finishes - 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					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

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	0.5019	2.0097	5.8767	0.0159	1.3080	0.0191	1.3271	0.3502	0.0180	0.3682	0.0000	1,451.5589	1,451.5589	0.0586	0.0000	1,453.0248
Unmitigated	0.5019	2.0097	5.8767	0.0159	1.3080	0.0191	1.3271	0.3502	0.0180	0.3682	0.0000	1,451.5589	1,451.5589	0.0586	0.0000	1,453.0248

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,522.56	1,522.56	1522.56	3,516,516	3,516,516
Parking Lot	0.00	0.00	0.00		
Total	1,522.56	1,522.56	1,522.56	3,516,516	3,516,516

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.596719	0.040200	0.188056	0.111125	0.016796	0.004948	0.012194	0.019466	0.002007	0.001626	0.005410	0.000612	0.000841
Parking Lot	0.596719	0.040200	0.188056	0.111125	0.016796	0.004948	0.012194	0.019466	0.002007	0.001626	0.005410	0.000612	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	150.6257	150.6257	0.0138	1.6700e-003	151.4662
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	150.6257	150.6257	0.0138	1.6700e-003	151.4662
NaturalGas Mitigated	0.0114	0.0978	0.0416	6.2000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003	0.0000	113.2039	113.2039	2.1700e-003	2.0800e-003	113.8766
NaturalGas Unmitigated	0.0114	0.0978	0.0416	6.2000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003	0.0000	113.2039	113.2039	2.1700e-003	2.0800e-003	113.8766

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.12136e+006	0.0114	0.0978	0.0416	6.2000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003	0.0000	113.2039	113.2039	2.1700e-003	2.0800e-003	113.8766
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0114	0.0978	0.0416	6.2000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003	0.0000	113.2039	113.2039	2.1700e-003	2.0800e-003	113.8766

Mitigated

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

Apartments Low Rise	2.12136e+006	0.0114	0.0978	0.0416	6.2000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003	0.0000	113.2039	113.2039	2.1700e-003	2.0800e-003	113.8766
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0114	0.0978	0.0416	6.2000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003	0.0000	113.2039	113.2039	2.1700e-003	2.0800e-003	113.8766

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	904550	148.3224	0.0135	1.6400e-003	149.1500
Parking Lot	14046.9	2.3033	2.1000e-004	3.0000e-005	2.3162
Total		150.6257	0.0138	1.6700e-003	151.4662

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	904550	148.3224	0.0135	1.6400e-003	149.1500
Parking Lot	14046.9	2.3033	2.1000e-004	3.0000e-005	2.3162
Total		150.6257	0.0138	1.6700e-003	151.4662

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0947	0.0253	1.5622	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	10.8394	10.8394	2.6800e-003	1.5000e-004	10.9517
Unmitigated	1.0947	0.0253	1.5622	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	10.8394	10.8394	2.6800e-003	1.5000e-004	10.9517

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	0.1600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.4000e-004	7.1700e-003	3.0500e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3093	8.3093	1.6000e-004	1.5000e-004	8.3587
Landscaping	0.0483	0.0181	1.5591	8.0000e-005		8.5000e-003	8.5000e-003		8.5000e-003	8.5000e-003	0.0000	2.5300	2.5300	2.5200e-003	0.0000	2.5931
Total	1.0947	0.0253	1.5622	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	10.8393	10.8393	2.6800e-003	1.5000e-004	10.9517

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.4000e-004	7.1700e-003	3.0500e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3093	8.3093	1.6000e-004	1.5000e-004	8.3587
Landscaping	0.0483	0.0181	1.5591	8.0000e-005		8.5000e-003	8.5000e-003		8.5000e-003	8.5000e-003	0.0000	2.5300	2.5300	2.5200e-003	0.0000	2.5931
Total	1.0947	0.0253	1.5622	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	10.8393	10.8393	2.6800e-003	1.5000e-004	10.9517

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21.2269	0.4431	0.0106	35.4684
Unmitigated	21.2269	0.4431	0.0106	35.4684

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	13.552 / 8.54368	21.2269	0.4431	0.0106	35.4684
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		21.2269	0.4431	0.0106	35.4684

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	13.552 / 8.54368	21.2269	0.4431	0.0106	35.4684
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		21.2269	0.4431	0.0106	35.4684

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.4222	1.1478	0.0000	48.1176
Unmitigated	19.4222	1.1478	0.0000	48.1176

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	95.68	19.4222	1.1478	0.0000	48.1176
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		19.4222	1.1478	0.0000	48.1176

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	95.68	19.4222	1.1478	0.0000	48.1176
Parking Lot	0	0.0000	0.0000	0.0000	0.0000

Total		19.4222	1.1478	0.0000	48.1176
-------	--	---------	--------	--------	---------

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

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

11.0 Vegetation

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

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Others	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Project Construction and Operations CalEEMod Output

777 Middlefield EIR - Santa Clara County, Summer

777 Middlefield EIR

Santa Clara County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	847.00	Space	7.62	338,800.00	0
Other Asphalt Surfaces	49.00	1000sqft	1.12	49,000.00	0
Apartments Mid Rise	716.00	Dwelling Unit	9.84	782,341.00	2048

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	327.6	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - GHG intensity factors calculated in PGE Construction Electricity_Water Calcs.xlsx spreadsheet

Land Use - Data from PD

Construction Phase - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet. Demo only

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Trips and VMT - Haul trip distances based on landfills described in the PD.

Construction Off-road Equipment Mitigation - Tier 4 Final for all offroad equipment

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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	260.00
tblConstructionPhase	NumDays	300.00	130.00
tblConstructionPhase	NumDays	300.00	325.00
tblConstructionPhase	NumDays	300.00	325.00
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	30.00	130.00
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	NumberGas	107.40	229.12
tblFireplaces	NumberWood	121.72	0.00
tblGrading	AcresOfGrading	0.00	9.84

tblGrading	MaterialExported	0.00	195,000.00
tblLandUse	LandUseSquareFeet	716,000.00	782,341.00
tblLandUse	LotAcreage	18.84	9.84
tblLandUseChange	CO2peracre	0.00	4.31
tblOffRoadEquipment	HorsePower	158.00	417.00
tblOffRoadEquipment	HorsePower	89.00	51.00
tblOffRoadEquipment	HorsePower	89.00	51.00
tblOffRoadEquipment	HorsePower	247.00	166.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	221.00	700.00
tblOffRoadEquipment	HorsePower	158.00	80.00
tblOffRoadEquipment	HorsePower	158.00	80.00
tblOffRoadEquipment	HorsePower	158.00	80.00
tblOffRoadEquipment	HorsePower	89.00	51.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	327.6

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	296.00
tblTripsAndVMT	HaulingTripLength	20.00	13.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripNumber	1,211.00	2,582.00
tblTripsAndVMT	HaulingTripNumber	24,375.00	32,500.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	140.00	1.00
tblTripsAndVMT	VendorTripNumber	140.00	1.00
tblTripsAndVMT	VendorTripNumber	140.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	678.00	160.00
tblTripsAndVMT	WorkerTripNumber	678.00	160.00
tblTripsAndVMT	WorkerTripNumber	678.00	160.00
tblTripsAndVMT	WorkerTripNumber	136.00	75.00
tblVehicleTrips	ST_TR	6.39	5.11
tblVehicleTrips	SU_TR	5.86	5.11
tblVehicleTrips	WD_TR	6.65	5.11
tblWoodstoves	NumberCatalytic	14.32	0.00
tblWoodstoves	NumberNoncatalytic	14.32	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.0538	89.2677	28.6689	0.2187	14.2346	1.2040	15.4510	5.0316	1.1148	6.1582	0.0000	22,938.8648	22,938.8648	2.1163	0.0000	22,991.7712
2021	2.7003	16.4377	25.8699	0.0557	2.7027	0.9098	3.6125	0.7185	0.8655	1.5840	0.0000	5,427.5137	5,427.5137	1.1744	0.0000	5,456.8745
2022	48.1151	34.1354	54.0725	0.1101	4.7071	1.3714	6.4706	1.2518	1.2992	2.9242	0.0000	10,769.1816	10,769.1816	1.3914	0.0000	10,803.9660
2023	44.2795	10.4668	16.1815	0.0295	0.6531	0.5086	1.1617	0.1741	0.4787	0.6528	0.0000	2,871.7948	2,871.7948	0.5536	0.0000	2,885.6352
Maximum	48.1151	89.2677	54.0725	0.2187	14.2346	1.3714	15.4510	5.0316	1.2992	6.1582	0.0000	22,938.8648	22,938.8648	2.1163	0.0000	22,991.7712

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.4438	70.3431	34.6944	0.2187	14.2346	0.2580	14.5050	5.0316	0.2495	5.2929	0.0000	22,938.8648	22,938.8648	2.1163	0.0000	22,991.7712
2021	1.3997	4.3044	26.9332	0.0557	2.7027	0.0759	2.7614	0.7185	0.0752	0.7758	0.0000	5,427.5137	5,427.5137	1.1744	0.0000	5,456.8745
2022	45.5021	8.7458	57.7370	0.1101	4.7071	0.0983	4.8345	1.2518	0.0967	1.3769	0.0000	10,769.1816	10,769.1816	1.3914	0.0000	10,803.9660
2023	43.4924	2.3461	18.1558	0.0295	0.6531	0.0396	0.6928	0.1741	0.0393	0.2134	0.0000	2,871.7948	2,871.7948	0.5536	0.0000	2,885.6352
Maximum	45.5021	70.3431	57.7370	0.2187	14.2346	0.2580	14.5050	5.0316	0.2495	5.2929	0.0000	22,938.8648	22,938.8648	2.1163	0.0000	22,991.7712

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

Percent Reduction	6.36	42.96	-10.20	0.00	0.00	88.19	14.62	0.00	87.74	32.34	0.00	0.00	0.00	0.00	0.00	0.00
-------------------	------	-------	--------	------	------	-------	-------	------	-------	-------	------	------	------	------	------	------

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	22.2488	5.1161	61.0624	0.0314		0.6859	0.6859		0.6859	0.6859	0.0000	5,767.1713	5,767.1713	0.2113	0.1038	5,803.3794
Energy	0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747
Mobile	4.9356	15.5843	52.9562	0.1916	17.8745	0.1404	18.0149	4.7710	0.1308	4.9018		19,340.6694	19,340.6694	0.5896		19,355.4088
Total	27.3672	22.2622	114.6832	0.2330	17.8745	0.9526	18.8271	4.7710	0.9429	5.7139	0.0000	27,101.6671	27,101.6671	0.8391	0.1403	27,164.4628

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	22.2488	5.1161	61.0624	0.0314		0.6859	0.6859		0.6859	0.6859	0.0000	5,767.1713	5,767.1713	0.2113	0.1038	5,803.3794
Energy	0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747
Mobile	4.9356	15.5843	52.9562	0.1916	17.8745	0.1404	18.0149	4.7710	0.1308	4.9018		19,340.6694	19,340.6694	0.5896		19,355.4088
Total	27.3672	22.2622	114.6832	0.2330	17.8745	0.9526	18.8271	4.7710	0.9429	5.7139	0.0000	27,101.6671	27,101.6671	0.8391	0.1403	27,164.4628

	ROG	NOx	CO	SO2	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	Grading and Mass Excavation - Demo only	Demolition	4/1/2020	9/29/2020	5	130	
2	Grading and Mass Excavation	Grading	4/1/2020	9/29/2020	5	130	
3	Site Preparation	Site Preparation	4/29/2020	4/28/2020	5	0	
4	Below Grade Construction	Building Construction	9/30/2020	3/30/2021	5	130	
5	Frame/Roofing/Exterior Finishes	Building Construction	3/31/2021	6/28/2022	5	325	
6	Plumbing/Electrical/Drywall	Building Construction	10/1/2021	12/29/2022	5	325	
7	Finishes	Architectural Coating	4/1/2022	3/30/2023	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.74

Residential Indoor: 1,584,241; Residential Outdoor: 528,080; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading and Mass Excavation - Demo only	Concrete/Industrial Saws	0	0.00	81	0.73
Grading and Mass Excavation - Demo only	Excavators	0	0.00	158	0.38
Grading and Mass Excavation - Demo only	Rubber Tired Dozers	0	0.00	247	0.40
Grading and Mass Excavation	Excavators	2	8.00	417	0.38
Grading and Mass Excavation	Graders	0	0.00	187	0.41
Grading and Mass Excavation	Rubber Tired Dozers	1	8.00	166	0.40
Grading and Mass Excavation	Scrapers	0	0.00	367	0.48
Grading and Mass Excavation	Tractors/Loaders/Backhoes	2	8.00	87	0.37
Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40

Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Bore/Drill Rigs	1	8.00	700	0.50
Below Grade Construction	Cranes	0	0.00	231	0.29
Below Grade Construction	Excavators	2	8.00	80	0.38
Below Grade Construction	Forklifts	0	0.00	89	0.20
Below Grade Construction	Generator Sets	0	0.00	84	0.74
Below Grade Construction	Pumps	1	8.00	84	0.74
Below Grade Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Welders	0	0.00	46	0.45
Frame/Roofing/Exterior Finishes	Cranes	0	0.00	231	0.29
Frame/Roofing/Exterior Finishes	Excavators	2	8.00	80	0.38
Frame/Roofing/Exterior Finishes	Forklifts	2	8.00	51	0.20
Frame/Roofing/Exterior Finishes	Generator Sets	0	0.00	84	0.74
Frame/Roofing/Exterior Finishes	Pumps	1	8.00	84	0.74
Frame/Roofing/Exterior Finishes	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Frame/Roofing/Exterior Finishes	Welders	0	0.00	46	0.45
Plumbing/Electrical/Drywall	Cranes	0	0.00	231	0.29
Plumbing/Electrical/Drywall	Excavators	2	8.00	80	0.38
Plumbing/Electrical/Drywall	Forklifts	2	8.00	51	0.20
Plumbing/Electrical/Drywall	Generator Sets	0	0.00	84	0.74
Plumbing/Electrical/Drywall	Pumps	1	8.00	84	0.74
Plumbing/Electrical/Drywall	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Plumbing/Electrical/Drywall	Welders	0	0.00	46	0.45
Finishes	Air Compressors	0	0.00	78	0.48
Finishes	Excavators	2	8.00	80	0.38
Finishes	Forklifts	2	8.00	51	0.20
Finishes	Pavers	2	8.00	130	0.42
Finishes	Pumps	1	8.00	84	0.74

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
Grading and Mass Excavation - Demo	0	0.00	0.00	2,582.00	10.80	7.30	13.00	LD_Mix	HDT_Mix	HHDT
Grading and Mass Excavation	5	20.00	1.00	32,500.00	10.80	40.00	15.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Below Grade Construction	4	160.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Frame/Roofing/Exterior Finishes	5	160.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Plumbing/Electrical/Drywall	5	160.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Finishes	7	75.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Grading and Mass Excavation - Demo only - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0158	0.0000	2.0158	0.3052	0.0000	0.3052			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	2.0158	0.0000	2.0158	0.3052	0.0000	0.3052		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

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

Category	lb/day										lb/day				
Hauling	0.1182	4.3299	0.8289	0.0110	0.2258	0.0124	0.2382	0.0619	0.0119	0.0738		1,171.3722	1,171.3722	0.0578	1,172.8180
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
Total	0.1182	4.3299	0.8289	0.0110	0.2258	0.0124	0.2382	0.0619	0.0119	0.0738		1,171.3722	1,171.3722	0.0578	1,172.8180

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0158	0	2.0158	0.3052	0	0.3052			0			0
Off-Road	0	0	0	0		0	0		0	0	0	0	0	0		0
Total	0	0	0	0	2.0158	0	2.0158	0.3052	0	0.3052	0	0	0	0		0

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1182	4.3299	0.8289	0.011	0.2258	0.0124	0.2382	0.0619	0.0119	0.0738		1,171.37	1,171.37	0.0578		1,172.82
Vendor	0	0	0	0	0	0	0	0	0	0		0	0	0		0
Worker	0	0	0	0	0	0	0	0	0	0		0	0	0		0

Total	0.1182	4.3299	0.8289	0.011	0.2258	0.0124	0.2382	0.0619	0.0119	0.0738		1,171.37	1,171.37	0.0578		1,172.82
-------	--------	--------	--------	-------	--------	--------	--------	--------	--------	--------	--	----------	----------	--------	--	----------

3.3 Grading and Mass Excavation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2720	0.0000	6.2720	3.3446	0.0000	3.3446			0.0000			0.0000
Off-Road	2.0838	20.9775	14.8057	0.0384		1.0092	1.0092		0.9285	0.9285		3,722.1873	3,722.1873	1.2038		3,752.2831
Total	2.0838	20.9775	14.8057	0.0384	6.2720	1.0092	7.2812	3.3446	0.9285	4.2730		3,722.1873	3,722.1873	1.2038		3,752.2831

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6495	59.2407	11.5650	0.1554	3.2782	0.1785	3.4566	0.8986	0.1707	1.0693		16,579.9479	16,579.9479	0.7892		16,599.6767
Vendor	0.0146	0.3470	0.0903	1.2600e-003	0.0370	2.9300e-003	0.0399	0.0106	2.8000e-003	0.0134		132.7839	132.7839	3.6700e-003		132.8755
Worker	0.0695	0.0427	0.5501	1.6200e-003	0.1643	1.0200e-003	0.1653	0.0436	9.4000e-004	0.0445		161.2013	161.2013	3.9400e-003		161.2999
Total	1.7336	59.6303	12.2053	0.1583	3.4795	0.1824	3.6619	0.9528	0.1745	1.1273		16,873.9331	16,873.9331	0.7968		16,893.8521

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.272	0	6.272	3.3446	0	3.3446			0			0
Off-Road	0.4738	2.053	20.8312	0.0384		0.0632	0.0632		0.0632	0.0632	0	3,722.19	3,722.19	1.2038		3,752.28
Total	0.4738	2.053	20.8312	0.0384	6.272	0.0632	6.3352	3.3446	0.0632	3.4078	0	3,722.19	3,722.19	1.2038		3,752.28

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6495	59.2407	11.565	0.1554	3.2782	0.1785	3.4566	0.8986	0.1707	1.0693		16,579.95	16,579.95	0.7892		16,599.68
Vendor	0.0146	0.347	0.0903	1.26E-03	0.037	2.93E-03	0.0399	0.0106	2.80E-03	0.0134		132.7839	132.7839	3.67E-03		132.8755
Worker	0.0695	0.0427	0.5501	1.62E-03	0.1643	1.02E-03	0.1653	0.0436	9.40E-04	0.0445		161.2013	161.2013	3.94E-03		161.2999
Total	1.7336	59.6303	12.2053	0.1583	3.4795	0.1824	3.6619	0.9528	0.1745	1.1273		16,873.93	16,873.93	0.7968		16,893.85

3.4 Site Preparation - 2020

Unmitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.5 Below Grade Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4147	14.4401	13.5343	0.0420		0.6581	0.6581		0.6220	0.6220		4,048.8678	4,048.8678	1.1453		4,077.4993
Total	1.4147	14.4401	13.5343	0.0420		0.6581	0.6581		0.6220	0.6220		4,048.8678	4,048.8678	1.1453		4,077.4993

Unmitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0146	0.3470	0.0903	1.2600e-003	0.0370	2.9300e-003	0.0399	0.0106	2.8000e-003	0.0134		132.7839	132.7839	3.6700e-003		132.8755
Worker	0.5561	0.3415	4.4005	0.0129	1.3144	8.2000e-003	1.3226	0.3486	7.5500e-003	0.3562		1,289.6102	1,289.6102	0.0316		1,290.3992
Total	0.5708	0.6885	4.4908	0.0142	1.3513	0.0111	1.3625	0.3593	0.0104	0.3696		1,422.3941	1,422.3941	0.0352		1,423.2747

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5005	2.1688	21.6045	0.0420		0.0667	0.0667		0.0667	0.0667	0.0000	4,048.8678	4,048.8678	1.1453		4,077.4993
Total	0.5005	2.1688	21.6045	0.0420		0.0667	0.0667		0.0667	0.0667	0.0000	4,048.8678	4,048.8678	1.1453		4,077.4993

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0146	0.3470	0.0903	1.2600e-003	0.0370	2.9300e-003	0.0399	0.0106	2.8000e-003	0.0134		132.7839	132.7839	3.6700e-003		132.8755
Worker	0.5561	0.3415	4.4005	0.0129	1.3144	8.2000e-003	1.3226	0.3486	7.5500e-003	0.3562		1,289.6102	1,289.6102	0.0316		1,290.3992

Total	0.5708	0.6885	4.4908	0.0142	1.3513	0.0111	1.3625	0.3593	0.0104	0.3696		1,422.394 1	1,422.3941	0.0352		1,423.274 7
-------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--	----------------	------------	--------	--	----------------

3.5 Below Grade Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2777	12.1612	13.4837	0.0420		0.5558	0.5558		0.5256	0.5256		4,051.123 3	4,051.1233	1.1427		4,079.690 8
Total	1.2777	12.1612	13.4837	0.0420		0.5558	0.5558		0.5256	0.5256		4,051.123 3	4,051.1233	1.1427		4,079.690 8

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0114	0.2973	0.0794	1.2400e-003	0.0370	1.1300e-003	0.0381	0.0106	1.0800e-003	0.0117		131.5730	131.5730	3.4500e-003		131.6592
Worker	0.5152	0.3053	4.0320	0.0125	1.3144	7.9900e-003	1.3224	0.3486	7.3500e-003	0.3560		1,244.817 4	1,244.8174	0.0283		1,245.524 5
Total	0.5266	0.6025	4.1114	0.0137	1.3513	9.1200e-003	1.3605	0.3593	8.4300e-003	0.3677		1,376.390 4	1,376.3904	0.0317		1,377.183 7

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5005	2.1688	21.6045	0.0420		0.0667	0.0667		0.0667	0.0667	0.0000	4,051.1233	4,051.1233	1.1427		4,079.6908
Total	0.5005	2.1688	21.6045	0.0420		0.0667	0.0667		0.0667	0.0667	0.0000	4,051.1233	4,051.1233	1.1427		4,079.6908

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0114	0.2973	0.0794	1.2400e-003	0.0370	1.1300e-003	0.0381	0.0106	1.0800e-003	0.0117		131.5730	131.5730	3.4500e-003		131.6592
Worker	0.5152	0.3053	4.0320	0.0125	1.3144	7.9900e-003	1.3224	0.3486	7.3500e-003	0.3560		1,244.8174	1,244.8174	0.0283		1,245.5245
Total	0.5266	0.6025	4.1114	0.0137	1.3513	9.1200e-003	1.3605	0.3593	8.4300e-003	0.3677		1,376.3904	1,376.3904	0.0317		1,377.1837

3.6 Frame/Roofing/Exterior Finishes - 2021

Unmitigated Construction On-Site

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

Off-Road	0.8236	7.6163	8.8236	0.0135		0.4458	0.4458		0.4243	0.4243		1,294.314 1	1,294.3141	0.2511		1,300.591 4
Total	0.8236	7.6163	8.8236	0.0135		0.4458	0.4458		0.4243	0.4243		1,294.314 1	1,294.3141	0.2511		1,300.591 4

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0114	0.2973	0.0794	1.2400e-003	0.0370	1.1300e-003	0.0381	0.0106	1.0800e-003	0.0117		131.5730	131.5730	3.4500e-003		131.6592
Worker	0.5152	0.3053	4.0320	0.0125	1.3144	7.9900e-003	1.3224	0.3486	7.3500e-003	0.3560		1,244.817 4	1,244.8174	0.0283		1,245.524 5
Total	0.5266	0.6025	4.1114	0.0137	1.3513	9.1200e-003	1.3605	0.3593	8.4300e-003	0.3677		1,376.390 4	1,376.3904	0.0317		1,377.183 7

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.314 1	1,294.3141	0.2511		1,300.591 4
Total	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.314 1	1,294.3141	0.2511		1,300.591 4

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0114	0.2973	0.0794	1.2400e-003	0.0370	1.1300e-003	0.0381	0.0106	1.0800e-003	0.0117		131.5730	131.5730	3.4500e-003		131.6592
Worker	0.5152	0.3053	4.0320	0.0125	1.3144	7.9900e-003	1.3224	0.3486	7.3500e-003	0.3560		1,244.8174	1,244.8174	0.0283		1,245.5245
Total	0.5266	0.6025	4.1114	0.0137	1.3513	9.1200e-003	1.3605	0.3593	8.4300e-003	0.3677		1,376.3904	1,376.3904	0.0317		1,377.1837

3.6 Frame/Roofing/Exterior Finishes - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7520	6.9728	8.7786	0.0135		0.3832	0.3832		0.3650	0.3650		1,294.1361	1,294.1361	0.2488		1,300.3571
Total	0.7520	6.9728	8.7786	0.0135		0.3832	0.3832		0.3650	0.3650		1,294.1361	1,294.1361	0.2488		1,300.3571

Unmitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2740	0.0756	1.2300e-003	0.0370	9.8000e-004	0.0380	0.0106	9.4000e-004	0.0116		130.2927	130.2927	3.3600e-003		130.3767
Worker	0.4801	0.2740	3.7154	0.0120	1.3144	7.8100e-003	1.3222	0.3486	7.1900e-003	0.3558		1,199.5533	1,199.5533	0.0254		1,200.1882
Total	0.4908	0.5480	3.7910	0.0133	1.3513	8.7900e-003	1.3601	0.3593	8.1300e-003	0.3674		1,329.8460	1,329.8460	0.0288		1,330.5649

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.1361	1,294.1361	0.2488		1,300.3571
Total	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.1361	1,294.1361	0.2488		1,300.3571

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2740	0.0756	1.2300e-003	0.0370	9.8000e-004	0.0380	0.0106	9.4000e-004	0.0116		130.2927	130.2927	3.3600e-003		130.3767
Worker	0.4801	0.2740	3.7154	0.0120	1.3144	7.8100e-003	1.3222	0.3486	7.1900e-003	0.3558		1,199.5533	1,199.5533	0.0254		1,200.1882

Total	0.4908	0.5480	3.7910	0.0133	1.3513	8.7900e-003	1.3601	0.3593	8.1300e-003	0.3674		1,329.8460	1,329.8460	0.0288		1,330.5649
-------	--------	--------	--------	--------	--------	-------------	--------	--------	-------------	--------	--	------------	------------	--------	--	------------

3.7 Plumbing/Electrical/Drywall - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8236	7.6163	8.8236	0.0135		0.4458	0.4458		0.4243	0.4243		1,294.3141	1,294.3141	0.2511		1,300.5914
Total	0.8236	7.6163	8.8236	0.0135		0.4458	0.4458		0.4243	0.4243		1,294.3141	1,294.3141	0.2511		1,300.5914

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0114	0.2973	0.0794	1.2400e-003	0.0370	1.1300e-003	0.0381	0.0106	1.0800e-003	0.0117		131.5730	131.5730	3.4500e-003		131.6592
Worker	0.5152	0.3053	4.0320	0.0125	1.3144	7.9900e-003	1.3224	0.3486	7.3500e-003	0.3560		1,244.8174	1,244.8174	0.0283		1,245.5245
Total	0.5266	0.6025	4.1114	0.0137	1.3513	9.1200e-003	1.3605	0.3593	8.4300e-003	0.3677		1,376.3904	1,376.3904	0.0317		1,377.1837

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.3141	1,294.3141	0.2511		1,300.5914
Total	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.3141	1,294.3141	0.2511		1,300.5914

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0114	0.2973	0.0794	1.2400e-003	0.0370	1.1300e-003	0.0381	0.0106	1.0800e-003	0.0117		131.5730	131.5730	3.4500e-003		131.6592
Worker	0.5152	0.3053	4.0320	0.0125	1.3144	7.9900e-003	1.3224	0.3486	7.3500e-003	0.3560		1,244.8174	1,244.8174	0.0283		1,245.5245
Total	0.5266	0.6025	4.1114	0.0137	1.3513	9.1200e-003	1.3605	0.3593	8.4300e-003	0.3677		1,376.3904	1,376.3904	0.0317		1,377.1837

3.7 Plumbing/Electrical/Drywall - 2022

Unmitigated Construction On-Site

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

Off-Road	0.7520	6.9728	8.7786	0.0135		0.3832	0.3832		0.3650	0.3650		1,294.1361	1,294.1361	0.2488		1,300.3571
Total	0.7520	6.9728	8.7786	0.0135		0.3832	0.3832		0.3650	0.3650		1,294.1361	1,294.1361	0.2488		1,300.3571

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2740	0.0756	1.2300e-003	0.0370	9.8000e-004	0.0380	0.0106	9.4000e-004	0.0116		130.2927	130.2927	3.3600e-003		130.3767
Worker	0.4801	0.2740	3.7154	0.0120	1.3144	7.8100e-003	1.3222	0.3486	7.1900e-003	0.3558		1,199.5533	1,199.5533	0.0254		1,200.1882
Total	0.4908	0.5480	3.7910	0.0133	1.3513	8.7900e-003	1.3601	0.3593	8.1300e-003	0.3674		1,329.8460	1,329.8460	0.0288		1,330.5649

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.1361	1,294.1361	0.2488		1,300.3571
Total	0.1733	1.5497	9.3552	0.0135		0.0202	0.0202		0.0202	0.0202	0.0000	1,294.1361	1,294.1361	0.2488		1,300.3571

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2740	0.0756	1.2300e-003	0.0370	9.8000e-004	0.0380	0.0106	9.4000e-004	0.0116		130.2927	130.2927	3.3600e-003		130.3767
Worker	0.4801	0.2740	3.7154	0.0120	1.3144	7.8100e-003	1.3222	0.3486	7.1900e-003	0.3558		1,199.5533	1,199.5533	0.0254		1,200.1882
Total	0.4908	0.5480	3.7910	0.0133	1.3513	8.7900e-003	1.3601	0.3593	8.1300e-003	0.3674		1,329.8460	1,329.8460	0.0288		1,330.5649

3.8 Finishes - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.9854					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1658	11.1706	14.5465	0.0229		0.5827	0.5827		0.5485	0.5485		2,204.6520	2,204.6520	0.5433		2,218.2350
Total	44.1512	11.1706	14.5465	0.0229		0.5827	0.5827		0.5485	0.5485		2,204.6520	2,204.6520	0.5433		2,218.2350

Unmitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2740	0.0756	1.2300e-003	0.0370	9.8000e-004	0.0380	0.0106	9.4000e-004	0.0116		130.2927	130.2927	3.3600e-003		130.3767
Worker	0.2251	0.1284	1.7416	5.6400e-003	0.6161	3.6600e-003	0.6198	0.1634	3.3700e-003	0.1668		562.2906	562.2906	0.0119		562.5882
Total	0.2357	0.4024	1.8172	6.8700e-003	0.6531	4.6400e-003	0.6577	0.1741	4.3100e-003	0.1784		692.5833	692.5833	0.0153		692.9649

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.9854					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2889	2.0504	16.4813	0.0229		0.0356	0.0356		0.0356	0.0356	0.0000	2,204.6520	2,204.6520	0.5433		2,218.2350
Total	43.2743	2.0504	16.4813	0.0229		0.0356	0.0356		0.0356	0.0356	0.0000	2,204.6520	2,204.6520	0.5433		2,218.2350

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2740	0.0756	1.2300e-003	0.0370	9.8000e-004	0.0380	0.0106	9.4000e-004	0.0116		130.2927	130.2927	3.3600e-003		130.3767
Worker	0.2251	0.1284	1.7416	5.6400e-003	0.6161	3.6600e-003	0.6198	0.1634	3.3700e-003	0.1668		562.2906	562.2906	0.0119		562.5882

Total	0.2357	0.4024	1.8172	6.8700e-003	0.6531	4.6400e-003	0.6577	0.1741	4.3100e-003	0.1784		692.5833	692.5833	0.0153		692.9649
-------	--------	--------	--------	-------------	--------	-------------	--------	--------	-------------	--------	--	----------	----------	--------	--	----------

3.8 Finishes - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.9854					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.0759	10.1711	14.5070	0.0229		0.5046	0.5046		0.4750	0.4750		2,204.0686	2,204.0686	0.5398		2,217.5647
Total	44.0613	10.1711	14.5070	0.0229		0.5046	0.5046		0.4750	0.4750		2,204.0686	2,204.0686	0.5398		2,217.5647

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8000e-003	0.1801	0.0681	1.2000e-003	0.0370	4.2000e-004	0.0374	0.0106	4.0000e-004	0.0110		126.8160	126.8160	3.0800e-003		126.8931
Worker	0.2104	0.1155	1.6064	5.4200e-003	0.6161	3.5900e-003	0.6197	0.1634	3.3000e-003	0.1667		540.9102	540.9102	0.0107		541.1774
Total	0.2182	0.2957	1.6745	6.6200e-003	0.6531	4.0100e-003	0.6571	0.1741	3.7000e-003	0.1778		667.7262	667.7262	0.0138		668.0705

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.9854					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2889	2.0504	16.4813	0.0229		0.0356	0.0356		0.0356	0.0356	0.0000	2,204.0686	2,204.0686	0.5398		2,217.5647
Total	43.2743	2.0504	16.4813	0.0229		0.0356	0.0356		0.0356	0.0356	0.0000	2,204.0686	2,204.0686	0.5398		2,217.5647

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8000e-003	0.1801	0.0681	1.2000e-003	0.0370	4.2000e-004	0.0374	0.0106	4.0000e-004	0.0110		126.8160	126.8160	3.0800e-003		126.8931
Worker	0.2104	0.1155	1.6064	5.4200e-003	0.6161	3.5900e-003	0.6197	0.1634	3.3000e-003	0.1667		540.9102	540.9102	0.0107		541.1774
Total	0.2182	0.2957	1.6745	6.6200e-003	0.6531	4.0100e-003	0.6571	0.1741	3.7000e-003	0.1778		667.7262	667.7262	0.0138		668.0705

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.9356	15.5843	52.9562	0.1916	17.8745	0.1404	18.0149	4.7710	0.1308	4.9018		19,340.6694	19,340.6694	0.5896		19,355.4088
Unmitigated	4.9356	15.5843	52.9562	0.1916	17.8745	0.1404	18.0149	4.7710	0.1308	4.9018		19,340.6694	19,340.6694	0.5896		19,355.4088

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,658.76	3,658.76	3658.76	8,450,299	8,450,299
Enclosed Parking with Elevator	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	3,658.76	3,658.76	3,658.76	8,450,299	8,450,299

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other 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
Apartments Mid Rise	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Enclosed Parking with Elevator	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Other Asphalt Surfaces	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747
NaturalGas Unmitigated	0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747

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	lb/day										lb/day					
Apartments Mid Rise	16947.5	0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747
Enclosed Parking with Elevator	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
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
Total		0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.9475	0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747
Enclosed Parking with Elevator	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
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
Total		0.1828	1.5618	0.6646	9.9700e-003		0.1263	0.1263		0.1263	0.1263		1,993.8263	1,993.8263	0.0382	0.0366	2,005.6747

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	22.2488	5.1161	61.0624	0.0314		0.6859	0.6859		0.6859	0.6859	0.0000	5,767.1713	5,767.1713	0.2113	0.1038	5,803.3794
Unmitigated	22.2488	5.1161	61.0624	0.0314		0.6859	0.6859		0.6859	0.6859	0.0000	5,767.1713	5,767.1713	0.2113	0.1038	5,803.3794

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.8795					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5189	4.4342	1.8869	0.0283		0.3585	0.3585		0.3585	0.3585	0.0000	5,660.6118	5,660.6118	0.1085	0.1038	5,694.2500
Landscaping	1.7885	0.6819	59.1755	3.1300e-003		0.3274	0.3274		0.3274	0.3274		106.5595	106.5595	0.1028		109.1294
Total	22.2488	5.1161	61.0624	0.0314		0.6859	0.6859		0.6859	0.6859	0.0000	5,767.1713	5,767.1713	0.2113	0.1038	5,803.3794

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.8795					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5189	4.4342	1.8869	0.0283		0.3585	0.3585		0.3585	0.3585	0.0000	5,660.6118	5,660.6118	0.1085	0.1038	5,694.2500
Landscaping	1.7885	0.6819	59.1755	3.1300e-003		0.3274	0.3274		0.3274	0.3274		106.5595	106.5595	0.1028		109.1294
Total	22.2488	5.1161	61.0624	0.0314		0.6859	0.6859		0.6859	0.6859	0.0000	5,767.1713	5,767.1713	0.2113	0.1038	5,803.3794

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

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

11.0 Vegetation

777 Middlefield EIR - Santa Clara County, Annual

777 Middlefield EIR
Santa Clara County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	847.00	Space	7.62	338,800.00	0
Other Asphalt Surfaces	49.00	1000sqft	1.12	49,000.00	0
Apartments Mid Rise	716.00	Dwelling Unit	9.84	782,341.00	2048

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	327.6	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - GHG intensity factors calculated in PGE Construction Electricity_Water Calcs.xlsx spreadsheet

Land Use - Data from PD

Construction Phase - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet. Demo only

Off-road Equipment - From AQ/GHG data request spreadsheet

Off-road Equipment - From AQ/GHG data request spreadsheet

Trips and VMT - Haul trip distances based on landfills described in the PD.

Construction Off-road Equipment Mitigation - Tier 4 Final for all offroad equipment

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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	260.00
tblConstructionPhase	NumDays	300.00	130.00
tblConstructionPhase	NumDays	300.00	325.00
tblConstructionPhase	NumDays	300.00	325.00
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	30.00	130.00
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	NumberGas	107.40	229.12
tblFireplaces	NumberWood	121.72	0.00
tblGrading	AcresOfGrading	0.00	9.84

tblGrading	MaterialExported	0.00	195,000.00
tblLandUse	LandUseSquareFeet	716,000.00	782,341.00
tblLandUse	LotAcreage	18.84	9.84
tblLandUseChange	CO2peracre	0.00	4.31
tblOffRoadEquipment	HorsePower	158.00	417.00
tblOffRoadEquipment	HorsePower	89.00	51.00
tblOffRoadEquipment	HorsePower	89.00	51.00
tblOffRoadEquipment	HorsePower	247.00	166.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	221.00	700.00
tblOffRoadEquipment	HorsePower	158.00	80.00
tblOffRoadEquipment	HorsePower	158.00	80.00
tblOffRoadEquipment	HorsePower	158.00	80.00
tblOffRoadEquipment	HorsePower	89.00	51.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	327.6

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	296.00
tblTripsAndVMT	HaulingTripLength	20.00	13.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripNumber	1,211.00	2,582.00
tblTripsAndVMT	HaulingTripNumber	24,375.00	32,500.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	140.00	1.00
tblTripsAndVMT	VendorTripNumber	140.00	1.00
tblTripsAndVMT	VendorTripNumber	140.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	678.00	160.00
tblTripsAndVMT	WorkerTripNumber	678.00	160.00
tblTripsAndVMT	WorkerTripNumber	678.00	160.00
tblTripsAndVMT	WorkerTripNumber	136.00	75.00
tblVehicleTrips	ST_TR	6.39	5.11
tblVehicleTrips	SU_TR	5.86	5.11
tblVehicleTrips	WD_TR	6.65	5.11
tblWoodstoves	NumberCatalytic	14.32	0.00
tblWoodstoves	NumberNoncatalytic	14.32	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.3230	6.0997	2.4315	0.0153	0.8160	0.1008	0.9168	0.3131	0.0938	0.4068	0.0000	1,436.8191	1,436.8191	0.1584	0.0000	1,440.7796
2021	0.2314	1.4943	2.2010	5.2100e-003	0.2134	0.0778	0.2912	0.0569	0.0740	0.1308	0.0000	461.9793	461.9793	0.0671	0.0000	463.6579
2022	4.5850	2.5957	3.9459	7.8800e-003	0.3137	0.1332	0.4469	0.0837	0.1262	0.2099	0.0000	698.7822	698.7822	0.0979	0.0000	701.2294
2023	1.4167	0.3355	0.5129	9.3000e-004	0.0202	0.0163	0.0365	5.3900e-003	0.0153	0.0207	0.0000	82.2646	82.2646	0.0161	0.0000	82.6659
Maximum	4.5850	6.0997	3.9459	0.0153	0.8160	0.1332	0.9168	0.3131	0.1262	0.4068	0.0000	1,436.8191	1,436.8191	0.1584	0.0000	1,440.7796

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1877	4.4585	3.0935	0.0153	0.8160	0.0195	0.8355	0.3131	0.0189	0.3320	0.0000	1,436.8187	1,436.8187	0.1584	0.0000	1,440.7791
2021	0.1211	0.3787	2.5270	5.2100e-003	0.2134	6.2600e-003	0.2196	0.0569	6.1500e-003	0.0630	0.0000	461.9790	461.9790	0.0671	0.0000	463.6576
2022	4.3874	0.6553	4.2468	7.8800e-003	0.3137	9.5500e-003	0.3232	0.0837	9.3900e-003	0.0931	0.0000	698.7817	698.7817	0.0979	0.0000	701.2289
2023	1.3915	0.0757	0.5760	9.3000e-004	0.0202	1.2700e-003	0.0215	5.3900e-003	1.2600e-003	6.6500e-003	0.0000	82.2646	82.2646	0.0161	0.0000	82.6658
Maximum	4.3874	4.4585	4.2468	0.0153	0.8160	0.0195	0.8355	0.3131	0.0189	0.3320	0.0000	1,436.8187	1,436.8187	0.1584	0.0000	1,440.7791

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

Percent Reduction	7.14	47.10	-14.87	0.00	0.00	88.85	17.24	0.00	88.45	35.60	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	4-1-2020	6-30-2020	3.0329	2.3656
2	7-1-2020	9-30-2020	3.0391	2.3670
3	10-1-2020	12-31-2020	0.5665	0.1332
4	1-1-2021	3-31-2021	0.4701	0.1254
5	4-1-2021	6-30-2021	0.3110	0.0927
6	7-1-2021	9-30-2021	0.3144	0.0937
7	10-1-2021	12-31-2021	0.6363	0.1949
8	1-1-2022	3-31-2022	0.5701	0.1843
9	4-1-2022	6-30-2022	2.6669	1.7611
10	7-1-2022	9-30-2022	2.4146	1.6917
11	10-1-2022	12-31-2022	2.4169	1.6983
12	1-1-2023	3-31-2023	1.7417	1.4585
		Highest	3.0391	2.3670

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	3.8032	0.0861	5.3363	4.4000e-004		0.0315	0.0315		0.0315	0.0315	0.0000	37.3034	37.3034	8.9400e-003	5.2000e-004	37.6832
Energy	0.0334	0.2850	0.1213	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	1,064.3570	1,064.3570	0.0713	0.0150	1,070.6153
Mobile	0.7789	2.9324	9.1529	0.0329	3.1422	0.0256	3.1678	0.8411	0.0238	0.8649	0.0000	3,012.6467	3,012.6467	0.0960	0.0000	3,015.0478
Waste						0.0000	0.0000		0.0000	0.0000	66.8571	0.0000	66.8571	3.9511	0.0000	165.6356
Water						0.0000	0.0000		0.0000	0.0000	14.8000	52.8053	67.6053	1.5248	0.0365	116.6129

Total	4.6154	3.3035	14.6105	0.0351	3.1422	0.0801	3.2223	0.8411	0.0783	0.9194	81.6571	4,167.1125	4,248.7696	5.6522	0.0521	4,405.5948
-------	--------	--------	---------	--------	--------	--------	--------	--------	--------	--------	---------	------------	------------	--------	--------	------------

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	3.8032	0.0861	5.3363	4.4000e-004		0.0315	0.0315		0.0315	0.0315	0.0000	37.3034	37.3034	8.9400e-003	5.2000e-004	37.6832
Energy	0.0334	0.2850	0.1213	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	1,064.3570	1,064.3570	0.0713	0.0150	1,070.6153
Mobile	0.7789	2.9324	9.1529	0.0329	3.1422	0.0256	3.1678	0.8411	0.0238	0.8649	0.0000	3,012.6467	3,012.6467	0.0960	0.0000	3,015.0478
Waste						0.0000	0.0000		0.0000	0.0000	66.8571	0.0000	66.8571	3.9511	0.0000	165.6356
Water						0.0000	0.0000		0.0000	0.0000	14.8000	52.8053	67.6053	1.5248	0.0365	116.6129
Total	4.6154	3.3035	14.6105	0.0351	3.1422	0.0801	3.2223	0.8411	0.0783	0.9194	81.6571	4,167.1125	4,248.7696	5.6522	0.0521	4,405.5948

	ROG	NOx	CO	SO2	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

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	209.5680

Vegetation Land Change	2.1550
Total	211.7230

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading and Mass Excavation - Demo only	Demolition	4/1/2020	9/29/2020	5	130	
2	Grading and Mass Excavation	Grading	4/1/2020	9/29/2020	5	130	
3	Site Preparation	Site Preparation	4/29/2020	4/28/2020	5	0	
4	Below Grade Construction	Building Construction	9/30/2020	3/30/2021	5	130	
5	Frame/Roofing/Exterior Finishes	Building Construction	3/31/2021	6/28/2022	5	325	
6	Plumbing/Electrical/Drywall	Building Construction	10/1/2021	12/29/2022	5	325	
7	Finishes	Architectural Coating	4/1/2022	3/30/2023	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.74

Residential Indoor: 1,584,241; Residential Outdoor: 528,080; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading and Mass Excavation - Demo only	Concrete/Industrial Saws	0	0.00	81	0.73
Grading and Mass Excavation - Demo only	Excavators	0	0.00	158	0.38
Grading and Mass Excavation - Demo only	Rubber Tired Dozers	0	0.00	247	0.40
Grading and Mass Excavation	Excavators	2	8.00	417	0.38
Grading and Mass Excavation	Graders	0	0.00	187	0.41
Grading and Mass Excavation	Rubber Tired Dozers	1	8.00	166	0.40
Grading and Mass Excavation	Scrapers	0	0.00	367	0.48

Grading and Mass Excavation	Tractors/Loaders/Backhoes	2	8.00	87	0.37
Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Bore/Drill Rigs	1	8.00	700	0.50
Below Grade Construction	Cranes	0	0.00	231	0.29
Below Grade Construction	Excavators	2	8.00	80	0.38
Below Grade Construction	Forklifts	0	0.00	89	0.20
Below Grade Construction	Generator Sets	0	0.00	84	0.74
Below Grade Construction	Pumps	1	8.00	84	0.74
Below Grade Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Below Grade Construction	Welders	0	0.00	46	0.45
Frame/Roofing/Exterior Finishes	Cranes	0	0.00	231	0.29
Frame/Roofing/Exterior Finishes	Excavators	2	8.00	80	0.38
Frame/Roofing/Exterior Finishes	Forklifts	2	8.00	51	0.20
Frame/Roofing/Exterior Finishes	Generator Sets	0	0.00	84	0.74
Frame/Roofing/Exterior Finishes	Pumps	1	8.00	84	0.74
Frame/Roofing/Exterior Finishes	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Frame/Roofing/Exterior Finishes	Welders	0	0.00	46	0.45
Plumbing/Electrical/Drywall	Cranes	0	0.00	231	0.29
Plumbing/Electrical/Drywall	Excavators	2	8.00	80	0.38
Plumbing/Electrical/Drywall	Forklifts	2	8.00	51	0.20
Plumbing/Electrical/Drywall	Generator Sets	0	0.00	84	0.74
Plumbing/Electrical/Drywall	Pumps	1	8.00	84	0.74
Plumbing/Electrical/Drywall	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Plumbing/Electrical/Drywall	Welders	0	0.00	46	0.45
Finishes	Air Compressors	0	0.00	78	0.48
Finishes	Excavators	2	8.00	80	0.38
Finishes	Forklifts	2	8.00	51	0.20
Finishes	Pavers	2	8.00	130	0.42
Finishes	Pumps	1	8.00	84	0.74

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
Grading and Mass Excavation - Demo	0	0.00	0.00	2,582.00	10.80	7.30	13.00	LD_Mix	HDT_Mix	HHDT
Grading and Mass Excavation	5	20.00	1.00	32,500.00	10.80	40.00	15.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Below Grade Construction	4	160.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Frame/Roofing/Exterior Finishes	5	160.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Plumbing/Electrical/Drywall	5	160.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Finishes	7	75.00	1.00	0.00	10.80	40.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Grading and Mass Excavation - Demo only - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1310	0.0000	0.1310	0.0198	0.0000	0.0198	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.1310	0.0000	0.1310	0.0198	0.0000	0.0198	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.8100e-003	0.2857	0.0565	7.1000e-004	0.0142	8.1000e-004	0.0151	3.9100e-003	7.8000e-004	4.6900e-003	0.0000	68.3663	68.3663	3.5000e-003	0.0000	68.4539
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.8100e-003	0.2857	0.0565	7.1000e-004	0.0142	8.1000e-004	0.0151	3.9100e-003	7.8000e-004	4.6900e-003	0.0000	68.3663	68.3663	3.5000e-003	0.0000	68.4539

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					0.1310	0.0000	0.1310	0.0198	0.0000	0.0198	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.1310	0.0000	0.1310	0.0198	0.0000	0.0198	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	7.8100e-003	0.2857	0.0565	7.1000e-004	0.0142	8.1000e-004	0.0151	3.9100e-003	7.8000e-004	4.6900e-003	0.0000	68.3663	68.3663	3.5000e-003	0.0000	68.4539
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.8100e-003	0.2857	0.0565	7.1000e-004	0.0142	8.1000e-004	0.0151	3.9100e-003	7.8000e-004	4.6900e-003	0.0000	68.3663	68.3663	3.5000e-003	0.0000	68.4539

3.3 Grading and Mass Excavation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4077	0.0000	0.4077	0.2174	0.0000	0.2174	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1355	1.3635	0.9624	2.5000e-003		0.0656	0.0656		0.0604	0.0604	0.0000	219.4863	219.4863	0.0710	0.0000	221.2609
Total	0.1355	1.3635	0.9624	2.5000e-003	0.4077	0.0656	0.4733	0.2174	0.0604	0.2778	0.0000	219.4863	219.4863	0.0710	0.0000	221.2609

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1088	3.9156	0.7836	0.0100	0.2067	0.0117	0.2184	0.0568	0.0112	0.0680	0.0000	968.7832	968.7832	0.0477	0.0000	969.9753
Vendor	9.6000e-004	0.0233	5.9400e-003	8.0000e-005	2.3400e-003	1.9000e-004	2.5300e-003	6.7000e-004	1.8000e-004	8.6000e-004	0.0000	7.8115	7.8115	2.2000e-004	0.0000	7.8170
Worker	4.3200e-003	3.1000e-003	0.0325	1.0000e-004	0.0103	7.0000e-005	0.0104	2.7400e-003	6.0000e-005	2.8000e-003	0.0000	8.8419	8.8419	2.2000e-004	0.0000	8.8474

Total	0.1141	3.9420	0.8220	0.0102	0.2193	0.0120	0.2313	0.0603	0.0114	0.0717	0.0000	985.4367	985.4367	0.0481	0.0000	986.6397
-------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	----------	----------	--------	--------	----------

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					0.4077	0.0000	0.4077	0.2174	0.0000	0.2174	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0308	0.1334	1.3540	2.5000e-003		4.1100e-003	4.1100e-003		4.1100e-003	4.1100e-003	0.0000	219.4860	219.4860	0.0710	0.0000	221.2606
Total	0.0308	0.1334	1.3540	2.5000e-003	0.4077	4.1100e-003	0.4118	0.2174	4.1100e-003	0.2215	0.0000	219.4860	219.4860	0.0710	0.0000	221.2606

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1088	3.9156	0.7836	0.0100	0.2067	0.0117	0.2184	0.0568	0.0112	0.0680	0.0000	968.7832	968.7832	0.0477	0.0000	969.9753
Vendor	9.6000e-004	0.0233	5.9400e-003	8.0000e-005	2.3400e-003	1.9000e-004	2.5300e-003	6.7000e-004	1.8000e-004	8.6000e-004	0.0000	7.8115	7.8115	2.2000e-004	0.0000	7.8170
Worker	4.3200e-003	3.1000e-003	0.0325	1.0000e-004	0.0103	7.0000e-005	0.0104	2.7400e-003	6.0000e-005	2.8000e-003	0.0000	8.8419	8.8419	2.2000e-004	0.0000	8.8474
Total	0.1141	3.9420	0.8220	0.0102	0.2193	0.0120	0.2313	0.0603	0.0114	0.0717	0.0000	985.4367	985.4367	0.0481	0.0000	986.6397

3.4 Site Preparation - 2020

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

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

3.5 Below Grade Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0474	0.4837	0.4534	1.4100e-003		0.0221	0.0221		0.0208	0.0208	0.0000	123.0479	123.0479	0.0348	0.0000	123.9180
Total	0.0474	0.4837	0.4534	1.4100e-003		0.0221	0.0221		0.0208	0.0208	0.0000	123.0479	123.0479	0.0348	0.0000	123.9180

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9000e-004	0.0120	3.0600e-003	4.0000e-005	1.2000e-003	1.0000e-004	1.3000e-003	3.5000e-004	9.0000e-005	4.4000e-004	0.0000	4.0260	4.0260	1.1000e-004	0.0000	4.0288
Worker	0.0178	0.0128	0.1341	4.0000e-004	0.0425	2.7000e-004	0.0428	0.0113	2.5000e-004	0.0116	0.0000	36.4560	36.4560	8.9000e-004	0.0000	36.4784
Total	0.0183	0.0248	0.1372	4.4000e-004	0.0437	3.7000e-004	0.0441	0.0117	3.4000e-004	0.0120	0.0000	40.4820	40.4820	1.0000e-003	0.0000	40.5071

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	0.0168	0.0727	0.7238	1.4100e-003		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	123.0477	123.0477	0.0348	0.0000	123.9179
Total	0.0168	0.0727	0.7238	1.4100e-003		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	123.0477	123.0477	0.0348	0.0000	123.9179

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9000e-004	0.0120	3.0600e-003	4.0000e-005	1.2000e-003	1.0000e-004	1.3000e-003	3.5000e-004	9.0000e-005	4.4000e-004	0.0000	4.0260	4.0260	1.1000e-004	0.0000	4.0288
Worker	0.0178	0.0128	0.1341	4.0000e-004	0.0425	2.7000e-004	0.0428	0.0113	2.5000e-004	0.0116	0.0000	36.4560	36.4560	8.9000e-004	0.0000	36.4784
Total	0.0183	0.0248	0.1372	4.4000e-004	0.0437	3.7000e-004	0.0441	0.0117	3.4000e-004	0.0120	0.0000	40.4820	40.4820	1.0000e-003	0.0000	40.5071

3.5 Below Grade 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	0.0403	0.3831	0.4247	1.3200e-003		0.0175	0.0175		0.0166	0.0166	0.0000	115.7662	115.7662	0.0327	0.0000	116.5826
Total	0.0403	0.3831	0.4247	1.3200e-003		0.0175	0.0175		0.0166	0.0166	0.0000	115.7662	115.7662	0.0327	0.0000	116.5826

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	9.6400e-003	2.5300e-003	4.0000e-005	1.1300e-003	4.0000e-005	1.1700e-003	3.3000e-004	3.0000e-005	3.6000e-004	0.0000	3.7511	3.7511	1.0000e-004	0.0000	3.7535
Worker	0.0155	0.0108	0.1153	3.7000e-004	0.0400	2.5000e-004	0.0402	0.0106	2.3000e-004	0.0109	0.0000	33.0897	33.0897	7.5000e-004	0.0000	33.1085

Total	0.0159	0.0204	0.1178	4.1000e-004	0.0411	2.9000e-004	0.0414	0.0110	2.6000e-004	0.0112	0.0000	36.8408	36.8408	8.5000e-004	0.0000	36.8621
-------	--------	--------	--------	-------------	--------	-------------	--------	--------	-------------	--------	--------	---------	---------	-------------	--------	---------

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	0.0158	0.0683	0.6805	1.3200e-003		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	115.7661	115.7661	0.0327	0.0000	116.5824
Total	0.0158	0.0683	0.6805	1.3200e-003		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	115.7661	115.7661	0.0327	0.0000	116.5824

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	9.6400e-003	2.5300e-003	4.0000e-005	1.1300e-003	4.0000e-005	1.1700e-003	3.3000e-004	3.0000e-005	3.6000e-004	0.0000	3.7511	3.7511	1.0000e-004	0.0000	3.7535
Worker	0.0155	0.0108	0.1153	3.7000e-004	0.0400	2.5000e-004	0.0402	0.0106	2.3000e-004	0.0109	0.0000	33.0897	33.0897	7.5000e-004	0.0000	33.1085
Total	0.0159	0.0204	0.1178	4.1000e-004	0.0411	2.9000e-004	0.0414	0.0110	2.6000e-004	0.0112	0.0000	36.8408	36.8408	8.5000e-004	0.0000	36.8621

3.6 Frame/Roofing/Exterior Finishes - 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	0.0815	0.7540	0.8735	1.3400e-003		0.0441	0.0441		0.0420	0.0420	0.0000	116.2440	116.2440	0.0226	0.0000	116.8078
Total	0.0815	0.7540	0.8735	1.3400e-003		0.0441	0.0441		0.0420	0.0420	0.0000	116.2440	116.2440	0.0226	0.0000	116.8078

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1300e-003	0.0303	7.9600e-003	1.2000e-004	3.5600e-003	1.1000e-004	3.6700e-003	1.0300e-003	1.1000e-004	1.1300e-003	0.0000	11.7890	11.7890	3.1000e-004	0.0000	11.7968
Worker	0.0488	0.0338	0.3624	1.1500e-003	0.1256	7.9000e-004	0.1264	0.0334	7.3000e-004	0.0341	0.0000	103.9962	103.9962	2.3700e-003	0.0000	104.0554
Total	0.0499	0.0641	0.3703	1.2700e-003	0.1292	9.0000e-004	0.1301	0.0344	8.4000e-004	0.0353	0.0000	115.7852	115.7852	2.6800e-003	0.0000	115.8522

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	0.0172	0.1534	0.9262	1.3400e-003		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	116.2439	116.2439	0.0226	0.0000	116.8077
Total	0.0172	0.1534	0.9262	1.3400e-003		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	116.2439	116.2439	0.0226	0.0000	116.8077

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1300e-003	0.0303	7.9600e-003	1.2000e-004	3.5600e-003	1.1000e-004	3.6700e-003	1.0300e-003	1.1000e-004	1.1300e-003	0.0000	11.7890	11.7890	3.1000e-004	0.0000	11.7968
Worker	0.0488	0.0338	0.3624	1.1500e-003	0.1256	7.9000e-004	0.1264	0.0334	7.3000e-004	0.0341	0.0000	103.9962	103.9962	2.3700e-003	0.0000	104.0554
Total	0.0499	0.0641	0.3703	1.2700e-003	0.1292	9.0000e-004	0.1301	0.0344	8.4000e-004	0.0353	0.0000	115.7852	115.7852	2.6800e-003	0.0000	115.8522

3.6 Frame/Roofing/Exterior Finishes - 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	0.0478	0.4428	0.5574	8.6000e-004		0.0243	0.0243		0.0232	0.0232	0.0000	74.5503	74.5503	0.0143	0.0000	74.9087
Total	0.0478	0.4428	0.5574	8.6000e-004		0.0243	0.0243		0.0232	0.0232	0.0000	74.5503	74.5503	0.0143	0.0000	74.9087

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8000e-004	0.0179	4.8700e-003	8.0000e-005	2.2800e-003	6.0000e-005	2.3400e-003	6.6000e-004	6.0000e-005	7.2000e-004	0.0000	7.4879	7.4879	2.0000e-004	0.0000	7.4928
Worker	0.0292	0.0194	0.2136	7.1000e-004	0.0806	5.0000e-004	0.0811	0.0214	4.6000e-004	0.0219	0.0000	64.2817	64.2817	1.3600e-003	0.0000	64.3157
Total	0.0299	0.0374	0.2185	7.9000e-004	0.0829	5.6000e-004	0.0834	0.0221	5.2000e-004	0.0226	0.0000	71.7696	71.7696	1.5600e-003	0.0000	71.8085

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	0.0110	0.0984	0.5941	8.6000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	74.5502	74.5502	0.0143	0.0000	74.9086
Total	0.0110	0.0984	0.5941	8.6000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	74.5502	74.5502	0.0143	0.0000	74.9086

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8000e-004	0.0179	4.8700e-003	8.0000e-005	2.2800e-003	6.0000e-005	2.3400e-003	6.6000e-004	6.0000e-005	7.2000e-004	0.0000	7.4879	7.4879	2.0000e-004	0.0000	7.4928
Worker	0.0292	0.0194	0.2136	7.1000e-004	0.0806	5.0000e-004	0.0811	0.0214	4.6000e-004	0.0219	0.0000	64.2817	64.2817	1.3600e-003	0.0000	64.3157
Total	0.0299	0.0374	0.2185	7.9000e-004	0.0829	5.6000e-004	0.0834	0.0221	5.2000e-004	0.0226	0.0000	71.7696	71.7696	1.5600e-003	0.0000	71.8085

3.7 Plumbing/Electrical/Drywall - 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	0.0272	0.2513	0.2912	4.5000e-004		0.0147	0.0147		0.0140	0.0140	0.0000	38.7480	38.7480	7.5200e-003	0.0000	38.9359
Total	0.0272	0.2513	0.2912	4.5000e-004		0.0147	0.0147		0.0140	0.0140	0.0000	38.7480	38.7480	7.5200e-003	0.0000	38.9359

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0101	2.6500e-003	4.0000e-005	1.1900e-003	4.0000e-005	1.2200e-003	3.4000e-004	4.0000e-005	3.8000e-004	0.0000	3.9297	3.9297	1.0000e-004	0.0000	3.9323
Worker	0.0163	0.0113	0.1208	3.8000e-004	0.0419	2.6000e-004	0.0421	0.0111	2.4000e-004	0.0114	0.0000	34.6654	34.6654	7.9000e-004	0.0000	34.6851

Total	0.0167	0.0214	0.1234	4.2000e-004	0.0431	3.0000e-004	0.0434	0.0115	2.8000e-004	0.0118	0.0000	38.5951	38.5951	8.9000e-004	0.0000	38.6174
-------	--------	--------	--------	-------------	--------	-------------	--------	--------	-------------	--------	--------	---------	---------	-------------	--------	---------

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	5.7200e-003	0.0511	0.3087	4.5000e-004		6.7000e-004	6.7000e-004		6.7000e-004	6.7000e-004	0.0000	38.7480	38.7480	7.5200e-003	0.0000	38.9359
Total	5.7200e-003	0.0511	0.3087	4.5000e-004		6.7000e-004	6.7000e-004		6.7000e-004	6.7000e-004	0.0000	38.7480	38.7480	7.5200e-003	0.0000	38.9359

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0101	2.6500e-003	4.0000e-005	1.1900e-003	4.0000e-005	1.2200e-003	3.4000e-004	4.0000e-005	3.8000e-004	0.0000	3.9297	3.9297	1.0000e-004	0.0000	3.9323
Worker	0.0163	0.0113	0.1208	3.8000e-004	0.0419	2.6000e-004	0.0421	0.0111	2.4000e-004	0.0114	0.0000	34.6654	34.6654	7.9000e-004	0.0000	34.6851
Total	0.0167	0.0214	0.1234	4.2000e-004	0.0431	3.0000e-004	0.0434	0.0115	2.8000e-004	0.0118	0.0000	38.5951	38.5951	8.9000e-004	0.0000	38.6174

3.7 Plumbing/Electrical/Drywall - 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	0.0974	0.9030	1.1368	1.7500e-003		0.0496	0.0496		0.0473	0.0473	0.0000	152.0357	152.0357	0.0292	0.0000	152.7665
Total	0.0974	0.9030	1.1368	1.7500e-003		0.0496	0.0496		0.0473	0.0473	0.0000	152.0357	152.0357	0.0292	0.0000	152.7665

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3900e-003	0.0365	9.9200e-003	1.6000e-004	4.6500e-003	1.3000e-004	4.7800e-003	1.3400e-003	1.2000e-004	1.4700e-003	0.0000	15.2707	15.2707	4.0000e-004	0.0000	15.2806
Worker	0.0596	0.0397	0.4357	1.4500e-003	0.1643	1.0100e-003	0.1653	0.0437	9.3000e-004	0.0446	0.0000	131.0941	131.0941	2.7700e-003	0.0000	131.1635
Total	0.0610	0.0762	0.4456	1.6100e-003	0.1690	1.1400e-003	0.1701	0.0451	1.0500e-003	0.0461	0.0000	146.3648	146.3648	3.1700e-003	0.0000	146.4441

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	0.0224	0.2007	1.2115	1.7500e-003		2.6200e-003	2.6200e-003		2.6200e-003	2.6200e-003	0.0000	152.0355	152.0355	0.0292	0.0000	152.7663
Total	0.0224	0.2007	1.2115	1.7500e-003		2.6200e-003	2.6200e-003		2.6200e-003	2.6200e-003	0.0000	152.0355	152.0355	0.0292	0.0000	152.7663

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3900e-003	0.0365	9.9200e-003	1.6000e-004	4.6500e-003	1.3000e-004	4.7800e-003	1.3400e-003	1.2000e-004	1.4700e-003	0.0000	15.2707	15.2707	4.0000e-004	0.0000	15.2806
Worker	0.0596	0.0397	0.4357	1.4500e-003	0.1643	1.0100e-003	0.1653	0.0437	9.3000e-004	0.0446	0.0000	131.0941	131.0941	2.7700e-003	0.0000	131.1635
Total	0.0610	0.0762	0.4456	1.6100e-003	0.1690	1.1400e-003	0.1701	0.0451	1.0500e-003	0.0461	0.0000	146.3648	146.3648	3.1700e-003	0.0000	146.4441

3.8 Finishes - 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					
Archit. Coating	4.2126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1143	1.0947	1.4256	2.2500e-003		0.0571	0.0571		0.0538	0.0538	0.0000	196.0026	196.0026	0.0483	0.0000	197.2102
Total	4.3268	1.0947	1.4256	2.2500e-003		0.0571	0.0571		0.0538	0.0538	0.0000	196.0026	196.0026	0.0483	0.0000	197.2102

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0500e-003	0.0276	7.5100e-003	1.2000e-004	3.5200e-003	1.0000e-004	3.6200e-003	1.0200e-003	9.0000e-005	1.1100e-003	0.0000	11.5562	11.5562	3.0000e-004	0.0000	11.5637
Worker	0.0211	0.0141	0.1545	5.1000e-004	0.0583	3.6000e-004	0.0587	0.0155	3.3000e-004	0.0158	0.0000	46.5030	46.5030	9.8000e-004	0.0000	46.5276
Total	0.0222	0.0417	0.1621	6.3000e-004	0.0618	4.6000e-004	0.0623	0.0165	4.2000e-004	0.0169	0.0000	58.0592	58.0592	1.2800e-003	0.0000	58.0913

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.2126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0283	0.2009	1.6152	2.2500e-003		3.4900e-003	3.4900e-003		3.4900e-003	3.4900e-003	0.0000	196.0024	196.0024	0.0483	0.0000	197.2100
Total	4.2409	0.2009	1.6152	2.2500e-003		3.4900e-003	3.4900e-003		3.4900e-003	3.4900e-003	0.0000	196.0024	196.0024	0.0483	0.0000	197.2100

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0500e-003	0.0276	7.5100e-003	1.2000e-004	3.5200e-003	1.0000e-004	3.6200e-003	1.0200e-003	9.0000e-005	1.1100e-003	0.0000	11.5562	11.5562	3.0000e-004	0.0000	11.5637
Worker	0.0211	0.0141	0.1545	5.1000e-004	0.0583	3.6000e-004	0.0587	0.0155	3.3000e-004	0.0158	0.0000	46.5030	46.5030	9.8000e-004	0.0000	46.5276
Total	0.0222	0.0417	0.1621	6.3000e-004	0.0618	4.6000e-004	0.0623	0.0165	4.2000e-004	0.0169	0.0000	58.0592	58.0592	1.2800e-003	0.0000	58.0913

3.8 Finishes - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.3255	0.4642	7.3000e-004		0.0162	0.0162		0.0152	0.0152	0.0000	63.9839	63.9839	0.0157	0.0000	64.3757
Total	1.4100	0.3255	0.4642	7.3000e-004		0.0162	0.0162		0.0152	0.0152	0.0000	63.9839	63.9839	0.0157	0.0000	64.3757

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	5.9200e-003	2.2000e-003	4.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	3.6729	3.6729	9.0000e-005	0.0000	3.6751
Worker	6.4600e-003	4.1300e-003	0.0464	1.6000e-004	0.0190	1.1000e-004	0.0192	5.0600e-003	1.1000e-004	5.1700e-003	0.0000	14.6079	14.6079	2.9000e-004	0.0000	14.6151

Total	6.7100e-003	0.0101	0.0486	2.0000e-004	0.0202	1.2000e-004	0.0203	5.3900e-003	1.2000e-004	5.5100e-003	0.0000	18.2807	18.2807	3.8000e-004	0.0000	18.2902
-------	-------------	--------	--------	-------------	--------	-------------	--------	-------------	-------------	-------------	--------	---------	---------	-------------	--------	---------

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2400e-003	0.0656	0.5274	7.3000e-004		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	63.9838	63.9838	0.0157	0.0000	64.3756
Total	1.3848	0.0656	0.5274	7.3000e-004		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	63.9838	63.9838	0.0157	0.0000	64.3756

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	5.9200e-003	2.2000e-003	4.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	3.6729	3.6729	9.0000e-005	0.0000	3.6751
Worker	6.4600e-003	4.1300e-003	0.0464	1.6000e-004	0.0190	1.1000e-004	0.0192	5.0600e-003	1.1000e-004	5.1700e-003	0.0000	14.6079	14.6079	2.9000e-004	0.0000	14.6151
Total	6.7100e-003	0.0101	0.0486	2.0000e-004	0.0202	1.2000e-004	0.0203	5.3900e-003	1.2000e-004	5.5100e-003	0.0000	18.2807	18.2807	3.8000e-004	0.0000	18.2902

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	0.7789	2.9324	9.1529	0.0329	3.1422	0.0256	3.1678	0.8411	0.0238	0.8649	0.0000	3,012.6467	3,012.6467	0.0960	0.0000	3,015.0478
Unmitigated	0.7789	2.9324	9.1529	0.0329	3.1422	0.0256	3.1678	0.8411	0.0238	0.8649	0.0000	3,012.6467	3,012.6467	0.0960	0.0000	3,015.0478

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,658.76	3,658.76	3658.76	8,450,299	8,450,299
Enclosed Parking with Elevator	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	3,658.76	3,658.76	3,658.76	8,450,299	8,450,299

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other 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
Apartments Mid Rise	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Enclosed Parking with Elevator	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Other Asphalt Surfaces	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	734.2567	734.2567	0.0650	8.9700e-003	738.5533
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	734.2567	734.2567	0.0650	8.9700e-003	738.5533
NaturalGas Mitigated	0.0334	0.2850	0.1213	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	330.1003	330.1003	6.3300e-003	6.0500e-003	332.0619
NaturalGas Unmitigated	0.0334	0.2850	0.1213	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	330.1003	330.1003	6.3300e-003	6.0500e-003	332.0619

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

Total		0.0334	0.2850	0.1213	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	330.1003	330.1003	6.3300e-003	6.0500e-003	332.0619
-------	--	--------	--------	--------	-------------	--	--------	--------	--	--------	--------	--------	----------	----------	-------------	-------------	----------

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	6.18585e+006	0.0334	0.2850	0.1213	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	330.1003	330.1003	6.3300e-003	6.0500e-003	332.0619
Enclosed Parking with Elevator	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
Total		0.0334	0.2850	0.1213	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	330.1003	330.1003	6.3300e-003	6.0500e-003	332.0619

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.9559e+006	439.2373	0.0389	5.3600e-003	441.8075
Enclosed Parking with Elevator	1.98537e+006	295.0195	0.0261	3.6000e-003	296.7458
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		734.2567	0.0650	8.9600e-003	738.5533

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.9559e+006	439.2373	0.0389	5.3600e-003	441.8075
Enclosed Parking with Elevator	1.98537e+006	295.0195	0.0261	3.6000e-003	296.7458
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		734.2567	0.0650	8.9600e-003	738.5533

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.8032	0.0861	5.3363	4.4000e-004		0.0315	0.0315		0.0315	0.0315	0.0000	37.3034	37.3034	8.9400e-003	5.2000e-004	37.6832
Unmitigated	3.8032	0.0861	5.3363	4.4000e-004		0.0315	0.0315		0.0315	0.0315	0.0000	37.3034	37.3034	8.9400e-003	5.2000e-004	37.6832

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	0.5588					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.0805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.8900e-003	0.0247	0.0105	1.6000e-004		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	28.6032	28.6032	5.5000e-004	5.2000e-004	28.7732
Landscaping	0.1610	0.0614	5.3258	2.8000e-004		0.0295	0.0295		0.0295	0.0295	0.0000	8.7002	8.7002	8.3900e-003	0.0000	8.9101
Total	3.8032	0.0861	5.3363	4.4000e-004		0.0315	0.0315		0.0315	0.0315	0.0000	37.3034	37.3034	8.9400e-003	5.2000e-004	37.6832

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5588					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.0805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.8900e-003	0.0247	0.0105	1.6000e-004		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	28.6032	28.6032	5.5000e-004	5.2000e-004	28.7732
Landscaping	0.1610	0.0614	5.3258	2.8000e-004		0.0295	0.0295		0.0295	0.0295	0.0000	8.7002	8.7002	8.3900e-003	0.0000	8.9101
Total	3.8032	0.0861	5.3363	4.4000e-004		0.0315	0.0315		0.0315	0.0315	0.0000	37.3034	37.3034	8.9400e-003	5.2000e-004	37.6832

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	67.6053	1.5248	0.0365	116.6129
Unmitigated	67.6053	1.5248	0.0365	116.6129

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	46.6503 / 29.41	67.6053	1.5248	0.0365	116.6129
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		67.6053	1.5248	0.0365	116.6129

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
--	--------------------	-----------	-----	-----	------

Land Use	Mgal	MT/yr			
Apartments Mid Rise	46.6503 / 29.41	67.6053	1.5248	0.0365	116.6129
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		67.6053	1.5248	0.0365	116.6129

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	66.8571	3.9511	0.0000	165.6356
Unmitigated	66.8571	3.9511	0.0000	165.6356

8.2 Waste by Land Use

Unmitigated

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

Apartments Mid Rise	329.36	66.8571	3.9511	0.0000	165.6356
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		66.8571	3.9511	0.0000	165.6356

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	329.36	66.8571	3.9511	0.0000	165.6356
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		66.8571	3.9511	0.0000	165.6356

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

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

11.0 Vegetation

--

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	211.7230	0.0000	0.0000	211.7230

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Others	4.6 / 5.1	2.1550	0.0000	0.0000	2.1550
Total		2.1550	0.0000	0.0000	2.1550

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	296	209.5680	0.0000	0.0000	209.5680
Total		209.5680	0.0000	0.0000	209.5680

Unmitigated

	Offroad + Vendor (ONSITE)								Offsite Onroad (DP)		
	2020		2021		2022		2023		2020		20
	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM
Grading & Mass Excavation - Demo	0.00	0.00							7.8000e-004	0.00	
Grading & Mass Excavation	0.06	0.06							0.0112	0.01	
Below Grade Construction	0.02	0.02	0.02	0.02					0.0000	0.00	0.0000
Frame/Roofing/Exterior Finishes			0.04	0.04	0.02	0.02					0.0000
Plumbing/Electrical/Drywall			0.01	0.01	0.05	0.05					0.0000
Finishes					0.05	0.05	0.02	0.02			

Mitigated

	Offroad + Vendor (ONSITE)								MITIGATED HAULING EM Offsite Onroad (DP)		
	2020		2021		2022		2023		2020		20
	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex	DPM
Grading & Mass Excavation - Demo	0.00	0.00							0.00	0.0000	

Grading & Mass Excavation	0.00	0.00						0.00	3.0000e-005	
Below Grade Construction	0.00	0.00	0.00	0.00				0.00	2.5000e-004	0.00
Frame/Roofing/Exterior Finishes			0.00	0.00	0.00	0.00				0.00
Plumbing/Electrical/Drywall			0.00	0.00	0.00	0.00				0.00
Finishes					0.00	0.00	0.00	0.00		

(DPM = Haul; PM2.5 = Haul + Worker)

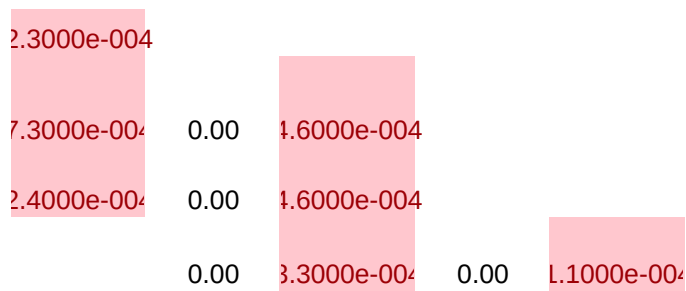
21	2022		2023	
PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex

0.00				
0.00	0.0000	0.00		
0.00	0.0000	0.00		
	0.0000	0.00	0.0000	0.00

MISSIONS CALCULATED OUTSIDE CALEEMOD

M = Haul = 0; PM2.5 = Haul [=0] + Worker)

21	2022		2023	
PM2.5 Ex	DPM	PM2.5 Ex	DPM	PM2.5 Ex



Health Risk Assessment Methodology and Calculations

The AERMOD model is a steady-state Gaussian plume model that was developed by EPA for estimating ground-level impacts from point, area, and fugitive sources in simple and complex terrain. Dispersion models such as AERMOD require local meteorological parameters such as wind speed, stability class, mixing height, and temperature. Hourly meteorological data previously developed by CARB from Moffett Federal Airport covering a 5-year period from 2009 through 2013 were used in the analysis. Construction activities were modeled to occur Monday through Friday between 8 a.m. and 5 p.m. throughout the year.

OEHHA recommends adjusting the receptor height (i.e., flagpole height) to represent the typical breathing zone of a person when the source receptor distance is less than a few hundred meters. The OEHHA-recommended range for analyzing the inhalation pathway is 0 to 1.8 meters. For the Project, all receptors were conservatively modeled at 1.2 meters (3.9 feet) to represent the breathing height of a typical child. Receptors were placed at all residences within 1,000 feet of the Project site, at the Wonder Years Preschool (on Stierlin Road), and at San Veron Park (on West Middlefield Road). Onsite construction emissions for the Project were characterized as an area source (AREAPOLY) with a release height of 5 meters (16.4 feet). Offsite construction emissions were characterized as a line/area source (LINEAREA) with a release height of 6.8 meters (22.3 feet). The urban dispersion option with an elevation of 0 meters was used for this location. All other AERMOD inputs are considered regulatory defaults.

The risk calculations incorporate OEHHA's recent guidance update, which now includes age-specific factors that take into account increased sensitivity to carcinogens during early-in-life exposure. The approach to estimating cancer risk from long-term inhalation, with exposure to carcinogens, requires calculating a range of potential doses and multiplying by cancer potency factors in units corresponding to the inverse dose to obtain a range of cancer risks. For cancer risk, the risk for each age group is calculated using the appropriate daily breathing rates, age sensitivity factors, and exposure duration. The cancer risks calculated for individual age groups are summed to estimate the cancer risk for each receptor. For the school receptors, an age-specific sensitivity factor for the maximally exposed individual student aged 2 to 9 was assumed, consistent with OEHHA and BAAQMD recommendations.

Health Risk - Dose and Risk Factors and Values

Dose factors

Dose-air = C_{air} × (BR/BW) × A × EF × 10⁻⁴

Dose-air = (C_{air} × WAF) × (BR/BW) × A × EF × 10⁻⁶

		3rd trimester	0<2	2<9	2<16	16<30	16-70	source
Daily Breath Rate (BR/BW) (L/kg-day)	Residential	361	1090	631	572	261	233	OEHHA 2015, Table 5.6, 95th %ile for 3rdtri-2yrs old; 80th for other age groups
	Recreational	240	1200	640	520	240	230	OEHHA 2015, Table 5.8 (95th, moderate) for all bins but 3rd tri, which was taken from SJVAPCD's draft guidance
	School	240	1200	640	520	240	230	SJVAPCD for 3rd tri; 95th percentile for all
A		1	1	1	1	1	1	OEHHA 2015, page 5-24
EF, Exposure frequency (unitless), days/365 days	Residential	0.96	0.96	0.96	0.96	0.96	0.96	OEHHA 2015, page 5-24, 350 days/yr
	Recreational	0.036	0.036	0.036	0.036	0.036	0.036	3x/week, 2 hours/day, for 9 years
	School	0.12	0.12	0.12	0.12	0.12	0.12	180 days/yr, 6 hours/day (BAAQMD 2016)
Conversion Factor		1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	(mg/ug + m3/L)

Risk Factors

RISK_{inh-res} = DOSE_{air} × CPF × ASF × ED/AT × FAH

		3rd trimester	0<2	2<9	2<16	16<30	16-70	source
CPF, DPM ([mg/kg-day] ⁻¹)		1.1	1.1	1.1	1.1	1.1	1.1	OEHHA 2015, Table 7.1
Average Age Sensitivity Factor		10	10	3	3	1	1	OEHHA 2015, Table 8.3
AT, Average Time (days)		70	70	70	70	70	70	Averaging time for lifetime cancer risk
FAH		0.85	0.85	0.72	0.72	0.73	0.73	OEHHA 2015, Table 8.4: Use FAH = 1 if a school is within the 1×10-6 (or greater) cancer risk isopleth
ED, Exposure Duration (years)		0.25	2	7	14	14	54	Equation 8.2.4 A, OEHHA 2015
Adjustment Factor	Residential	1.00	1.00	1.00	1.00	1.00	1.00	OEHHA 2015, Page 4-44 and Equation 4.1; exposure is adjusted upward to account for overlapping daytime exposure.
	Recreational	3.36	3.36	3.36	3.36	3.36	3.36	
	School	3.36	3.36	3.36	3.36	3.36	3.36	

Hazard Index

Chronic Inhalation Reference Exposure Level, respiratory, DPM	5	OEHHA 2015, Table 6.3
---	---	-----------------------

SUMMARY OF PM2.5 Ex						ONSITE PM2.5Ex - OFFROAD														
Phase	2020					2021					2022					2023				
	Start date	End date	Days (2020)	PM2.5 Ex (tons)	PM2.5 (grams)	Start date	End date	Days (2021)	PM2.5 Ex (tons)	PM2.5 (grams)	Start date	End date	Days (2022)	PM2.5 Ex (tons)	PM2.5 (grams)	Start date	End date	Days (2023)	PM2.5 Ex (tons)	PM2.5 (grams)
Grading and Mass Excavation - Demo Only	4/1/2020	9/29/2020	130	0.0000	0.000	4/1/2020	9/29/2020	0	0.0000	0.000	4/1/2020	9/29/2020	0	0.0000	0.000	4/1/2020	9/29/2020	0	0.0000	0.000
Grading and Mass Excavation	4/1/2020	9/29/2020	130	0.0043	3891.823	4/1/2020	9/29/2020	0	0.0000	0.000	4/1/2020	9/29/2020	0	0.0000	0.000	4/1/2020	9/29/2020	0	0.0000	0.000
Below Grade Construction	9/30/2020	3/30/2021	67	0.0023	2113.740	9/30/2020	3/30/2021	63	0.002	1932.303	9/30/2020	3/30/2021	0	0.0000	0.000	9/30/2020	3/30/2021	0	0.0000	0.000
Frame/Roofing/Exterior Finishes	3/31/2021	6/28/2022	0	0.00000	0.000	3/31/2021	6/28/2022	198	0.002	1914.160	3/31/2021	6/28/2022	127	0.001	1215.628	3/31/2021	6/28/2022	0	0.0000	0.000
Plumbing/Electrical/Drywall	10/1/2021	12/29/2022	0	0.00000	0.000	10/1/2021	12/29/2022	66	0.001	644.101	10/1/2021	12/29/2022	259	0.003	2485.686	10/1/2021	12/29/2022	0	0.0000	0.000
Finishes	4/1/2022	3/30/2023	0	0.00000	0.000	4/1/2022	3/30/2023	0	0.0000	0.000	4/1/2022	3/30/2023	196	0.004	3247.721	4/1/2022	3/30/2023	64	0.001	1043.262
Total	4/1/2020	12/31/2020	197	0.007	6005.563	1/1/2021	12/31/2021	261	0.005	4490.564	1/1/2022	12/31/2022	260	0.008	6949.035	1/1/2023	3/30/2023	64	0.001	1043.262

seconds/hour	3600
work hours/day	8
seconds per work day	28800

ONSITE

Phase	Start date	End date	days	Days in Bin per OEHHA			g/day	total g			g/sec	g/sec-m2			days sum		
				3rd tri	0<2	2-9		3rd tri	0<2	2-9		3rd tri	0<2	2-9			
Grading and Mass Excavation - Demo Only	4/1/2020	9/29/2020	130	66	64		0	0	0		0.00000	0.00000	0.00000000	0.00000000	0	130	
Grading and Mass Excavation	4/1/2020	9/29/2020	130	66	64		30	1976	1916		0.00104	0.00104	0.00000003	0.00000003	0	130	
Below Grade Construction	9/30/2020	3/30/2021	130		130		31		4046			0.00108	0.00000003		0	130	
Frame/Roofing/Exterior Finishes	3/31/2021	6/28/2022	325		325		10		3130			0.00033	0.00000001		0	325	
Plumbing/Electrical/Drywall	10/1/2021	12/29/2022	325		196	129	10		1888	1242		0.00033	0.00033	0.00000001	0.00000001	0	325
Finishes	4/1/2022	3/30/2023	260		66	194	17		1089	3202		0.00057	0.00057	0.00000001	0.00000001	0	260
Total				132	845	323		1976	12069	4444	0.00052	0.00050	0.00048	0.00000001	0.00000001	0.00000001	1300
max per oehha				91	730	2555											
range of days				4/1/2020	7/2/2020	7/3/2022											
				7/1/2020	7/2/2022	7/1/2029											
				91	730	2555											

ONROAD

Phase	Total trips in Caleemod haul	caleemod trip length haul	Caleemod avg trip length	Aermod avg trip length	VMT scalar	<- using this to scale onroad PM2.5 for each phase
Grading and Mass Excavation - Demo Only	2582	13	13	0.447697806	0.034	
Grading and Mass Excavation	32500	15	15	0.447697806	0.030	
Below Grade Construction	0					
Frame/Roofing/Exterior Finishes	0					
Plumbing/Electrical/Drywall	0					
Finishes	0					

Phase	10/1/2021	12/29/2022	days	Days in Bin per OEHHA			g/day, caleemod	g/day, aermod	total g			g/sec	g/sec-m2		
				3rd tri	0<2	2-9			3rd tri	0<2	2-9		3rd tri	0<2	2-9
Grading and Mass Excavation - Demo Only	4/1/2020	9/29/2020	130	66	64		3.442	0.119	8	8		0.00000	0.00000	0.00000000	0.00000000
Grading and Mass Excavation	4/1/2020	9/29/2020	130	66	64		50.065	1.494	99	96		0.00005	0.00005	0.00000001	0.00000001
Below Grade Construction	9/30/2020	3/30/2021	130		130		3.350	0.000		0		0.00000		0.00000000	0.00000000
Frame/Roofing/Exterior Finishes	3/31/2021	6/28/2022	325		325		3.322	0.000		0		0.00000		0.00000000	0.00000000
Plumbing/Electrical/Drywall	10/1/2021	12/29/2022	325		196	129	1.954	0.000		0	0	0.00000	0.00000	0.00000000	0.00000000
Finishes	4/1/2022	3/30/2023	260		66	194	1.535	0.000		0	0	0.00000	0.00000	0.00000000	0.00000000
Total				132	845	323	63.667	1.613	106	103	0	0.00003	0.00000	0.00000	0.00000001

SUMMARY (g/sec/m2)

Source	3rd tri	0<2	2-9
ONSITE	1.28E-08	1.22E-08	1.17E-08
OFFSITE	5.55E-09	8.41E-10	0.00E+00

ASSUMPTIONS

Areas	onsite 40,708.20	offsite 5043.5	m2
AERMOD segment meters to mile	720.5 0.000621371	meters	

OFFSITE PM2.5ex - ONROAD TRUCKS																									
2020					2021					2022					2023					onsite combined			offsite combined		
Start date	End date	Days (2020)	PM2.5 Ex (tons)	PM2.5 (grams)	Start date	End date	Days (2021)	PM2.5 Ex (tons)	PM2.5 (grams)	Start date	End date	Days (2022)	PM2.5 Ex (tons)	PM2.5 (grams)	Start date	End date	Days (2023)	PM2.5 Ex (tons)	PM2.5 (grams)	PM2.5 Ex g	days	g/d	PM2.5 Ex g	days	g/d
4/1/2020	9/29/2020	130	0.00049	447.474	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	0.000	130	0.000	447.474	130	0.000
4/1/2020	9/29/2020	130	0.00717	6508.388	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	3891.823	130	29.937	6508.388	130	50.065
9/30/2020	3/30/2021	67	2.5000e-004	226.796	9/30/2020	3/30/2021	63	2.3000e-004	208.652	9/30/2020	3/30/2021	0	0.00000	0.000	9/30/2020	3/30/2021	0	0.00000	0.000	4046.044	130	31.123	435.449	130	3.350
3/31/2021	6/28/2022	0	0.00000	0.000	3/31/2021	6/28/2022	198	7.3000e-004	662.245	3/31/2021	6/28/2022	127	4.6000e-004	417.305	3/31/2021	6/28/2022	0	0.00000	0.000	3129.787	325	9.630	1079.550	325	3.322
10/1/2021	12/29/2022	0	0.00000	0.000	10/1/2021	12/29/2022	66	2.4000e-004	217.724	10/1/2021	12/29/2022	259	4.6000e-004	417.305	10/1/2021	12/29/2022	0	0.00000	0.000	3129.787	325	9.630	635.029	325	1.954
4/1/2022	3/30/2023	0	0.00000	0.000	4/1/2022	3/30/2023	0	0.00000	0.000	4/1/2022	3/30/2023	196	3.3000e-004	299.371	4/1/2022	3/30/2023	64	1.1000e-004	99.790	4290.984	260	16.504	399.161	260	1.535
			0.00767	6955.863				0.00000	0.000				0.00000	0.000				0.00000	0.000	18488.425	1300	14.222	9505.052	1300	7.312

TRUE

qc
seconds 3801600 24336000
grams 106.4443 103.21871
209.663 FALSE
0.000

SUMMARY OF DPM		ONSITE DPM - OFFROAD																		
Phase	2020					2021					2022					2023				
	Start date	End date	Days (2020)	DPM (tons)	DPM (grams)	Start date	End date	Days (2021)	DPM (tons)	DPM (grams)	Start date	End date	Days (2022)	DPM (tons)	DPM (grams)	Start date	End date	Days (2023)	DPM (tons)	DPM (grams)
Grading and Mass Excavation - Demo Only	4/1/2020	9/29/2020	130	0.0000	0.000	4/1/2020	9/29/2020	0	0.000	0.000	4/1/2020	9/29/2020	0	0.000	0.000	4/1/2020	9/29/2020	0	0.000	0.000
Grading and Mass Excavation	4/1/2020	9/29/2020	130	0.0043	3891.823	4/1/2020	9/29/2020	0	0.000	0.000	4/1/2020	9/29/2020	0	0.000	0.000	4/1/2020	9/29/2020	0	0.000	0.000
Below Grade Construction	9/30/2020	3/30/2021	67	0.0023	2113.740	9/30/2020	3/30/2021	63	0.002	1932.303	9/30/2020	3/30/2021	0	0.000	0.000	9/30/2020	3/30/2021	0	0.000	0.000
Frame/Roofing/Exterior Finishes	3/31/2021	6/28/2022	0	0.0000	0.000	3/31/2021	6/28/2022	198	0.002	1914.160	3/31/2021	6/28/2022	127	0.001	1215.628	3/31/2021	6/28/2022	0	0.000	0.000
Plumbing/Electrical/Drywall	10/1/2021	12/29/2022	0	0.0000	0.000	10/1/2021	12/29/2022	66	0.001	644.101	10/1/2021	12/29/2022	259	0.003	2485.686	10/1/2021	12/29/2022	0	0.000	0.000
Finishes	4/1/2022	3/30/2023	0	0.0000	0.000	4/1/2022	3/30/2023	0	0.000	0.000	4/1/2022	3/30/2023	196	0.004	3247.721	4/1/2022	3/30/2023	64	0.001	1043.262
Total	4/1/2020	12/31/2020	197	0.007	6005.563	1/1/2021	12/31/2021	261	0.005	4490.564	1/1/2022	12/31/2022	260	0.008	6949.035	1/1/2023	3/30/2023	64	0.001	1043.262
	4/1/2020	3/30/2023	782																	

seconds/hour 3600
work hours/day 8
seconds per work day 28800

ONSITE																				
Phase	Start date	End date	days	Days in Bin per OEHHHA			g/day	total g			g/sec			g/sec-m2			days sum			
				3rd tri	0<2	2-9		3rd tri	0<2	2-9	3rd tri	0<2	2-9	3rd tri	0<2	2-9				
Grading and Mass Excavation - Demo Only	4/1/2020	9/29/2020	130	66	64		0	0	0	0.00000			0.00000000			0	130			
Grading and Mass Excavation	4/1/2020	9/29/2020	130	66	64		30	1976	1916	0.00104	0.00104		0.00000003	0.00000003		0	130			
Below Grade Construction	9/30/2020	3/30/2021	130		130		31		4046		0.00108			0.00000003		0	130			
Frame/Roofing/Exterior Finishes	3/31/2021	6/28/2022	325		325		10		3130		0.00033			0.00000001		0	325			
Plumbing/Electrical/Drywall	10/1/2021	12/29/2022	325		196	129	10		1888	1242	0.00033	0.00033		0.00000001	0.00000001	0	325			
Finishes	4/1/2022	3/30/2023	260		66	194	17		1089	3202	0.00057	0.00057		0.00000001	0.00000001	0	260			
Total				132	845	323		1976	12069	4444	0.00052	0.00050	0.00048	0.00000001	0.00000001	0.00000001	1300			
			max per oehha	91	730	2555														
			range of days	4/1/2020	7/2/2020	7/3/2022														
				7/1/2020	7/2/2022	7/1/2029														
				91	730	2555														

ONROAD						
Phase	Total trips in Caleemod haul	caleemod trip length haul	Caleemod avg trip length	Aermod avg trip length	VMT scalar	<-- using this to scale onroad DPM for each phase
Grading and Mass Excavation - Demo Only	2582	13	13	0.447697806	0.034	
Grading and Mass Excavation	32500	15	15	0.447697806	0.030	
Below Grade Construction	0					
Frame/Roofing/Exterior Finishes	0					
Plumbing/Electrical/Drywall	0					
Finishes	0					

Phase	10/1/2021	12/29/2022	days	Days in Bin per OEHHHA			g/day, caeemod	g/day, aermod	total g			g/sec	g/sec-m2			g/sec-m2	g/sec-m2		
				3rd tri	0<2	2-9			3rd tri	0<2	2-9		3rd tri	0<2	2-9		3rd tri	0<2	2-9
Grading and Mass Excavation - Demo Only	4/1/2020	9/29/2020	130	66	64		3.442	0.119	8	8	0.00000	0.00000		0.00000000	0.00000000				
Grading and Mass Excavation	4/1/2020	9/29/2020	130	66	64		49.646	1.482	98	95	0.00005	0.00005		0.00000001	0.00000001				
Below Grade Construction	9/30/2020	3/30/2021	130		130		0.000	0.000		0			0.00000000			0.00000000			
Frame/Roofing/Exterior Finishes	3/31/2021	6/28/2022	325		325		0.000	0.000		0			0.00000000			0.00000000			
Plumbing/Electrical/Drywall	10/1/2021	12/29/2022	325		196	129	0.000	0.000		0	0	0.00000	0.00000		0.00000000	0.00000000			
Finishes	4/1/2022	3/30/2023	260		66	194	0.000	0.000		0	0	0.00000	0.00000		0.00000000	0.00000000			
Total				132	845	323	53.088	1.600	106	102	0	0.00003	0.00000	0.00000	0.00000001	0.00000000	0.00000000		

SUMMARY (g/sec/m2)			
Source	3rd tri	0<2	2-9
ONSITE	1.28E-08	1.22E-08	1.17E-08
OFFSITE	5.51E-09	8.34E-10	0.00E+00

ASSUMPTIONS			
Areas	onsite 40,708.20	offsite 5043.5	m2
AERMOD segment meters to mile	720.5	meters	
	0.000621371		

OFFSITE DPM - ONROAD TRUCKS																											
2020					2021					2022					2023					onsite combined			offsite combined				
Start date	End date	Days (2020)	DPM (tons)	DPM (grams)	Start date	End date	Days (2021)	DPM (tons)	DPM (grams)	Start date	End date	Days (2022)	DPM (tons)	DPM (grams)	Start date	End date	Days (2023)	DPM (tons)	DPM (grams)	DPM g	days	g/d	DPM g	days	g/d		
4/1/2020	9/29/2020	130	0.00049	447.474	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	0.000	130	0.000	447.474	130	3.442		
4/1/2020	9/29/2020	130	0.00711	6453.957	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	4/1/2020	9/29/2020	0	0.00000	0.000	3891.823	130	29.937	6453.957	130	49.646		
9/30/2020	3/30/2021	67	0.000000	0.000	9/30/2020	3/30/2021	63	0.000000	0.000	9/30/2020	3/30/2021	0	0.000000	0.000	9/30/2020	3/30/2021	0	0.000000	0.000	4046.044	130	31.123	0.000	130	0.000		
3/31/2021	6/28/2022	0	0.000000	0.000	3/31/2021	6/28/2022	198	0.000000	0.000	3/31/2021	6/28/2022	127	0.000000	0.000	3/31/2021	6/28/2022	0	0.000000	0.000	3129.787	325	9.630	0.000	325	0.000		
10/1/2021	12/29/2022	0	0.000000	0.000	10/1/2021	12/29/2022	66	0.000000	0.000	10/1/2021	12/29/2022	259	0.000000	0.000	10/1/2021	12/29/2022	0	0.000000	0.000	3129.787	325	9.630	0.000	325	0.000		
4/1/2022	3/30/2023	0	0.000000	0.000	4/1/2022	3/30/2023	0	0.000000	0.000	4/1/2022	3/30/2023	196	0.000000	0.000	4/1/2022	3/30/2023	64	0.000000	0.000	4290.984	260	16.504	0.000	260	0.000		
				0.00761	6901.432					0.000000	0.000					0.000000	0.000					18488.425	1300	14.222	6901.432	1300	5.309

TRUE

qc
seconds 3801600 24336000
grams 105.6195 102.41892
208.03842 FALSE
0.000

Receptors					Concentration ug/m3			Dose Inhalation by Bin			Cancer Risk by Bin			Sum of Cancer Risk		Chronic HI (max annual)	Max PM2.5 Ex (ug/m3)
Rec ID	Detail	X	Y	Type	3RDTRI	0_2	2_9	3RDTRI	0_2	2_9	3RDTRI	0_2	2_9	Summed Risk	Cases Per Million		
Temple_NECorner	Temple	581747.37	4139904.07	Recreational	1.35E-02	1.28E-02	1.23E-02	1.2E-07	5.5E-07	2.8E-07	1.3E-08	4.9E-07	2.2E-07	7E-07	0.73	0.00	0.01
Res_Highest	Residence	581638.63	4139960.77	Residential	8.05E-03	7.67E-03	7.36E-03	2.8E-06	8.0E-06	4.5E-06	9.3E-08	2.1E-06	1.1E-06	3E-06	3.29	0.00	0.01
Res_2ndHighest	Residence	581901.66	4139796.61	Residential	5.98E-03	5.46E-03	5.19E-03	2.1E-06	5.7E-06	3.1E-06	6.9E-08	1.5E-06	7.5E-07	2E-06	2.34	0.00	0.01

0

$$Dose_{air} = C_{air} \times (BR/BW) \times A \times EF \times 10^{-4}$$

$$RISK_{inh-res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$$

Existing, Project, and Total Health Risks

		Cancer	Hazard	PM2.5
Existing	Adjacent Res	48.17448	0.008379	0.775514
	2nd Highest Res	36.26486	0.009425	0.51051
	Temple NE Corner	36.97192	0.008379	0.536948
Project	Adjacent Res	3.29	0.00	0.01
	2nd Highest Res	2.34	0.00	0.01
	Temple NE Corner	0.73	0.00	0.01
Total	Adjacent Res	51.47	0.01	0.78
	2nd Highest Res	38.60	0.01	0.52
	Temple NE Corner	37.70	0.01	0.55
BAAQMD Cumulative Threshold		100	10	0.8

Existing Sources of Health Risks to Adjacent Temple Residence

Plant No.	Existing Source	Source Address	Distance to Receptor (feet)	Cancer	Hazard	PM2.5	Notes
G7155	Mountain View Arco	790 Shoreline Blvd	1,090	0.275329982	0.00135925		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G10420	Valero Refining Co. SS#7528	495 Moffet Blvd	1,670	0.226914444	0.00112026		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G3690	Chevron #9-6377	808 North Shoreline Blvd	1,450	0.869490066	0.00429248		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G12348	Shoreline Shell	807 North Shoreline Blvd	1,285	0.325560696	0.00160721		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
N/A	Highway			10.89276			0.26091 ArcMap cancer risk and PM2.5 concentration data from BAAQMD
N/A	Major Roads			22.791412			0.490001 ArcMap cancer risk and PM2.5 concentration data from BAAQMD
N/A	Rail			12.793016			0.024603 ArcMap cancer risk and PM2.5 concentration data from BAAQMD
Total Risks				48.17448319	0.0083792	0.775514	

Existing Sources of Health Risks to Monte Verde Townhomes

Plant No.	Existing Source	Source Address	Distance to Receptor (feet)	Cancer	Hazard	PM2.5	Notes
G7155	Mountain View Arco	790 Shoreline Blvd	1,925	0.275329982	0.001359246		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G10420	Valero Refining Co. SS#7528	495 Moffet Blvd	660	0.438733088	0.002165992		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G3690	Chevron #9-6377	808 North Shoreline Blvd	2,275	0.869490066	0.004292482		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G12348	Shoreline Shell	807 North Shoreline Blvd	2,040	0.325560696	0.001607211		0 Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
N/A	Highway			11.629492		0.288038	ArcMap cancer risk and PM2.5 concentration data from BAAQMD
N/A	Major Roads			9.131499		0.196327	ArcMap cancer risk and PM2.5 concentration data from BAAQMD
N/A	Rail			13.594752		0.026145	ArcMap cancer risk and PM2.5 concentration data from BAAQMD
Total Risks				36.26485683	0.009424931	0.51051	

Existing Sources of Health Risks to NE Corner of Mountain View Buddhist Temple

Plant No.	Existing Source	Source Address	Distance to Receptor (feet)	Cancer	Hazard	PM2.5	Notes
G7155	Mountain View Arco	790 Shoreline Blvd	1,375	0.275329982	0.001359246	0	Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G10420	Valero Refining Co. SS#7528	495 Moffet Blvd	1,280	0.226914444	0.001120259	0	Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G3690	Chevron #9-6377	808 North Shoreline Blvd	1,735	0.869490066	0.004292482	0	Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
G12348	Shoreline Shell	807 North Shoreline Blvd	1,520	0.325560696	0.001607211	0	Cancer, Hazard, PM2.5 values calculated from GDF Distance Multiplier Tool
N/A	Highway			10.930909		0.264352	ArcMap cancer risk and PM2.5 concentration data from BAAQMD
N/A	Major Roads			11.533201		0.247959	ArcMap cancer risk and PM2.5 concentration data from BAAQMD
N/A	Rail			12.810519		0.024637	ArcMap cancer risk and PM2.5 concentration data from BAAQMD
Total Risks				36.97192419	0.008379198	0.536948	

AERMOD Output Available Upon Request

GHG Efficiency Calculations

2020 Efficiency Threshold Calcs

MT CO2e target of 1990 emissions level for year 2020;
295,530,000 emissions compiled from year 1990
44,135,923 2020 population
20,194,661 2020 employment
64,330,584 2020 California SP (pop + employ)
4.593926895 AB 32 Goal GHG Emissions (MT CO2e/SP)

source

BAAQMD
Justification
Report (2009)

2030 Emissions Target

MT CO2e target of 40% below 2020 emissions levels for
177,318,000 year 2030
43,939,250 2030 population
23,500,000 2030 employment
67,439,250 2030 California SP (pop + employ)
2.629299703 SB 32 Goal GHG Emissions (MT CO2e/SP)
per year emissions reduction target between 2020 and
4% 2030

SB 32

CA DOF: <http://www.dof.ca.gov/Forecasting/Demographics/Projections/>
https://www.arb.ca.gov/cc/scopingplan/2030sp_app_econ_final.pdf

2023 Efficiency Threshold Calcs

MT CO2e target of 12% below 2020 emissions levels for
260,066,400 year 2023
41,659,526 2023 population
18,669,530 2023 employment
60,329,056 2023 California SP (pop + employ)
4.310798432 2023 GHG Threshold (MT CO2e/SP)

CA DOF: <http://www.dof.ca.gov/Forecasting/Demographics/Projections/>
CA EDD: <https://www.labormarketinfo.edd.ca.gov/data/employment-projections.html>

Vegetation Sequestration		Source
CO2e (MT/year):	211.7230	G:\Sacramento\LGT-Air&Noise\Air\777 Middlefield EIR 00406.17 (BAAQMD)\02 Modeling\CalEEMod\[Construction and Operations_Mitigated_Annual_080318.xls]
Project Operational Emissions		
Year:	2023	
Service Population (SP):	1,229	1,718 new residents + 14 new employees - 499 current residents - 4 current employees
CO2e (MT/year):	4,405.5948	G:\Sacramento\LGT-Air&Noise\Air\777 Middlefield EIR 00406.17 (BAAQMD)\02 Modeling\CalEEMod\[Construction and Operations_Mitigated_Annual_080318.xls]
CO2e per SP (MT/year):	3.58469878	
Existing Operational Emissions		
Year:	2018	
Service Population (SP):	503	residents + employees
CO2e (MT/year):	1,812.91	G:\Sacramento\LGT-Air&Noise\Air\777 Middlefield EIR 00406.17 (BAAQMD)\02 Modeling\CalEEMod\[Existing Operations_Annual.xls]
Net Operational Emissions		
CO2e (MT/year):	2,380.97	
CO2e per SP (MT/year):	1.9373201	
2023 GHG Threshold (MT CO2e/SP)	4.31079843	
Below Threshold?	yes	

Energy Calculations

Construction Energy Calcs

CO2 from diesel	963	MT
CO2 from gasoline	474	MT
Total	1,436.8187	MT

CO2 from diesel	963282.8	kg
CO2 from gasoline	473535.9	kg
Total	1436818.7	kg

Gallons diesel	94346.993	gal
Gallons gasoline	54056.61	gal
Gallons Total	148403.6	gal

kg CO2 per gal diesel	10.21	CR 2018
kg CO2 per gal gasoline	8.76	CR 2018

kgs per MT	1000
------------	------

Operational Energy Calcs

Natural Gas	kBTU/year	MBTU/year	therm/year
	6.18585e+006	6,186	61,859

Electricity	kWh/year	BTU/year	MBTU/year	therm/year
	4,941,270	16,879,378,320	16,879	168,794

Total	MBTU/year	therm/year
	23,065	230,652

BTU_kWh	3,416	Argonne 2013
million BTU	1000000	
thousand BTU	1000	
MBTU_therm	1.00E+01	

Analysis of Models and Tools to Correlate Project-Generated Criteria Pollutant Emissions to Health End Points

Several models and tools capable of translating mass emissions of criteria pollutants to various health endpoints have been developed. Table 3.2-1.1 summarizes key tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As shown in Table 3.2-1.1, almost all tools were designed to be used at the national, state, regional, and/or city-levels. These tools are not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Accordingly, they are generally not recommended for CEQA analyses.

Table 3.2-1.1. Analysis of Models and Tools to Correlate Project-Generated Criteria Pollutant Emissions to Health End Points

Tool	Created by	Description	Resolution	Pollutants Analyzed	Project-Level CEQA Applicability
AirCounts ¹	Abt Assoc.	Online tool that helps large and medium-sized cities quickly estimate the health benefits of PM2.5 emission reductions and economic value of those benefits. The tool estimates the number of deaths (mortality) avoided and economic value related to user-specified regional, annual PM2.5 emissions reduction. The modeling year is 2010; avoided deaths are expected to occur over a 20-year period and their present value is shown in 2010 US dollars at a 3% discount rate.	City-level	Primary PM2.5	This tool is only illustrative, as it is limited to certain cities and does not target specific sectors. Given that it was designed as a screening-level tool, is not sector specific, and includes limited California data, the tool is not recommended for project-level CEQA analysis.
AP2 (formerly Air Pollution Emission Experiments and Policy [APEEP]) ²	Mueller and Mendelsohn, 2006	AP2 is an integrated assessment model developed to assess marginal damage impacts from emissions at the national scale but can be applied at the county-level. The model connects emissions to monetary damages through six modules: emissions (per EPA’s national inventory), air quality modeling, concentrations, exposures, physical effects, and valuation. Damages are presented on a dollar-per-ton basis. Model extends damage assessment beyond human health, and includes assessment on reduced crop and timber yields, reductions in visibility, enhanced depreciation of man-made materials and damages due to lost recreation services.	National or county-level	SO ₂ , ROG, NO _x , ozone, PM2.5, PM10	The model operates at the national scale but may be applied at the county-level (although it is not clear how this adjustment should be made). The tool is also not commercially available. Accordingly, the tool is not recommended for project-level CEQA analysis.
Methodology for Estimating Premature Deaths Associated with Long-Term Exposure to Fine Airborne Particulate Matter in California ³	CARB	The staff report identifies a relative risk of premature death associated with PM2.5 exposure based on a review of all relevant scientific literature, and a new relative risk factor was developed. This new factor is a 10% increase in risk of premature death per 10 µg/m ³ increase in exposure to PM2.5 concentrations (uncertainty interval: 3% to 20%)	National		The primary author of the CARB staff report notes that the analysis method is not suited for small projects and may yield unreliable results due to various uncertainties (SCAQMD 2015). Accordingly, the tool is not recommended for project-level CEQA analysis.
Co-Benefits Risk Assessment (COBRA) ⁴	US EPA	Preliminary screening tool that contains baseline emission estimates of a variety of air pollutants for a single year (2017). COOBRA is targeted to state and local governments as a screening assessment for clean energy policies. Users specify changes to the baseline emission estimates. COBRA then uses "canned" source-receptor matrix model to estimate PM changes and resulting health outcomes and monetized values. The results can be mapped to visually represent air quality, human health, and health-related economic benefits. Analysis can be performed across the 14 major emissions categories included in the EPA’s National Emissions Inventory.	National, regional, state, or county-levels	PM2.5, SO ₂ , NO _x , NH ₃ , and ROG	COBRA is a preliminary screening tool only and cannot be used at sub-county resolution. It also does not account for secondary emission changes resulting from market responses. Accordingly, the tool is not recommended for project-level CEQA analysis.
Note that COBRA is based on EPA’s BenMAP-CE (discussed in a separate entry).					

¹ <https://www.abtassociates.com/tools>
² Original APEEP: https://www.researchgate.net/publication/253359043_The_Air_Pollution_Emission_Experiments_and_Policy_Analysis_Model_APEEP_Technical_Appendix
³ <https://www.arb.ca.gov/research/health/pm-mort/PMmortalityreportFINALR10-24-08.pdf>
⁴ <https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool>

Tool	Created by	Description	Resolution	Pollutants Analyzed	Project-Level CEQA Applicability
Environmental Benefits and Mapping Program-Community Edition (BenMAP-CE) ⁵	US EPA	BenMAP is EPA's detailed model for estimating the health impacts from air pollution. It relies on input concentrations and applies concentration-response (C-R) health impact functions, which relate a change in the concentration of a pollutant with a change in the incidence of a health endpoint, including premature mortality, heart attacks, chronic respiratory illnesses, asthma exacerbation and other adverse health effects. Detailed inputs are required for air quality changes (concentrations from AERMOD), population, baseline incidence rates, and effect estimates.	National, County, City, and sub-regional levels	Ozone, PM, NO ₂ , SO ₂ , CO	The smallest analysis resolution for BenMAP-CE is 144 square kilometers (equivalent to approximately 56 square miles or 36,000 acres). Accordingly, the tool is not recommended for project-level CEQA analysis.
Fast Scenario Screening Tool (TM5-FASST) ⁶	Joint Research Centre (Italy)	Tool allows users to evaluate how air pollutant emissions affect large scale pollutant concentrations and their impact on human health (mortality and years of life lost) and crop yield from national to regional air quality policies, such as climate policies. The tool is web-based and does not require coding or modelling. Users must gain access through publishers.	Global and national-levels	PM2.5, ozone, NO _x , NH ₃ , CO, ROG, EC, CH ₄ , SO ₂	This tool is applicable at national to global scales. Accordingly, the tool is not recommended for project-level CEQA analysis.
Long-range Energy Alternatives Planning System-- Integrated Benefits Calculator (LEAP-IBC)	Climate and Clean Air Coalit-ion (CCAC)	Allows users to rapidly estimate the impacts of reducing emissions on health, climate, and agriculture. Tool uses sensitivity coefficients that link gridded emissions of air pollutants and precursors to health, climate and agricultural impacts at a national level. The sensitivity coefficients are generated by a chemical transport model, so air quality modeling not necessary. Tool is currently Excel-based and is available through the developers only. A web-based interface is currently under development.	National-level	PM2.5, ozone, NO ₂	This tool is applicable at national scale. Accordingly, the tool is not recommended for project-level CEQA analysis.
Multi-Pollutant Evaluation Method (MPEM) ⁷	BAAQMD	Estimates the impacts of control measures on pollutant concentration, population exposures, and health outcomes for criteria, toxic, and GHG pollutants. Monetizes the value of total health benefits from reductions in PM2.5, ozone, and certain carcinogens, and the social value of GHG reductions. MPEM was designed for development of a Clean Air Plan for the San Francisco Bay Area. The inputs are specific to the SF region and are not appropriate for projects outside BAAQMD.	Regional level in the SFBAAB	Ozone, PM, air toxics, GHG	This tool is designed to support the BAAQMD in regional planning and emissions analysis within the SFBAAB. The model applies changes in pollutant concentrations over a four-square kilometer grid. Accordingly, the tool is not recommended for project-level CEQA analysis that cover an area smaller than 1,000 acres.
Response Surface Model (RSM)-based Benefit-per-Ton Estimates ⁸	US EPA	Consists of tables reporting the monetized PM2.5-related health benefits from reducing PM2.5 precursors from certain source types nationally and for 9 US cities/regions. Applying these estimates simply involves multiplying the emissions reduction by the relevant benefit per-ton metric. The resulting value is the PM mortality risk estimate at a 3% discount rate. Note that RSM is based on EPA's BenMAP-CE (discussed in a separate entry).	National or regional (San Joaquin County only) levels	EC, SO _x , VOC, NH ₃ , NO _x	While RSM includes regional values specific to San Joaquin County, the metrics only reflect the benefits of reductions in exposure to ambient PM alone and do not include the benefits of reductions in other pollutants. The values are also dated as new sector-based BPT values are more current. Accordingly, the tool is not recommended for project-level CEQA analysis.

⁵ <https://www.epa.gov/benmap>

⁶ <http://tm5-fasst.jrc.ec.europa.eu/>

⁷ http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/mpem_nov_dec_2016-pdf.pdf?la=en

⁸ <https://www.epa.gov/benmap/response-surface-model-rsm-based-benefit-ton-estimates>.

Tool	Created by	Description	Resolution	Pollutants Analyzed	Project-Level CEQA Applicability
Sector-based Benefit-per-Ton Estimates ⁹	US EPA	Two specific sets of BPT estimates for 17 key source categories are available. Both are a reduced-form approach based on BenMAP modeling. The first are based on Fann et al. (2012) values and available from EPA's website. The second is based on updated modeling from Fann et al. (2017) and available in a Technical Support Document (TSD) from EPA. Applying these factors involves multiplying the emissions reduction (in tons) by the relevant benefit (economic value) or incidence (rates of mortality and morbidity) per-ton metric. The resulting value is the economics, mortality, and morbidity of direct and indirect PM2.5 emissions. All values are based on a national-scale study. Local values are preferred, but not available from any existing reduced form model and use of reduced form estimates for another city is unlikely to provide a better-than-national value. Use of the current values from EPA's 2018 TSD represent the most current estimate of monetized or incidence risk. Values from Lepeule et al. (2012) represent the most current estimate of mortality.	National-scale	PM2.5, SO ₂ , NO _x	The BPT estimates do not account for project-specific emissions or receptor locations, local dispersion characteristics, or regional photochemistry. The resultant health effects are therefore reflective of national averages and may not be accurate when applied to the project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.

⁹ <https://www.epa.gov/benmap/sector-based-pm25-benefit-ton-estimates>. The updated Technical Support Document (February 2018) is available at: https://www.epa.gov/sites/production/files/2018-02/documents/sourceapportionmentbpttsd_2018.pdf.