Appendix C-2

Option 2: Air Quality and Greenhouse Gas Analysis

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MEMORANDUM

To: Mark Tersini, KT Urban

From: Ace Malisos
Noemi Wyss
Kimley-Horn and Associates, Inc.

Date: July 2, 2019

Subject: Garden Gate Tower Project –Option 2 Air Quality and Greenhouse Gas Emissions Analysis

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1.0 Purpose

The purpose of this memorandum is to identify the air quality and greenhouse gas (GHG) emissions associated with construction and operations of the proposed Garden Gate Tower Project (Project), located in the City of San José, California. The Project was originally proposed as a multi-family project, but in March 2019 the City Council amended the City's Zoning ordinance to establish a Co-Living Community as an allowed residential use within two Downtown Zoning Districts. As discussed in section 2.0 Project Description below, the Applicant added a Co-Living as Option 2.

2.0 Proposed Project Description

The Project is located approximately 0.8 miles south of Downtown San José (City) in Santa Clara County, California. The site is located in an urban area bounded by residential uses in a mix of single-family and multi-family. Interstate 280 runs south of the project site, South 1st Street to the west, East Reed Street to the North and an Alley to the east. The project site is near Valley Transportation Authority (VTA) bus stop for routes 66, 68, and 82. The proposed Project site includes two parcels (Assessor Parcel Number 472-26-090 and 472-26-089) on approximately 0.42 acres. The Project site includes an existing commercial building, two-story residential structure, and associated landscaping and parking.

The Project includes a residential tower with ground-floor neighborhood-oriented retail in a 27-story tower. The tower would have a maximum height of 283 feet.

Option 1 (previously studied) includes the traditional multi-family project with 290 units and 4,840 square-feet (sf) of retail divided into four spaces. Option 1 would provide 232 vehicle parking spaces and 74 bicycle parking spaces. Option 1 would have a density of 690 dwelling units per acre.

Option 2 of the proposed Project is the Co-Living configuration. Option 2 includes 850[1] bedrooms, approximately 6,000 square-feet of ground-floor retail area, 124 vehicle parking spaces, and 180 bicycle parking spaces. The density would be approximately 1,445 dwelling units per acre.

Vehicular access to the project site would consist of a garage driveway up on the Alley accessed from East Reed Street and a garage entry down on South 1st Street. The Alley has a width of 24 feet and therefore would limit the types of vehicles able to enter the garage.

Air Quality/ Greenhouse Gas Assessment and a Health Risk Assessment were originally prepared by Michael Baker International in January 2018 for the original Option 1 Project. The analysis below addresses Option 2.

3.0 Project Specific Analysis

3.1 Air Quality

Construction Emissions

Construction for Option 1 and Option 2 would involve the same building footprint and nearly the same exterior building architecture with the exception of some minor differences in the ground floor layout. The construction for Option 2 was not separately modeled as it was assumed to have the same demolition, earthwork volumes, construction phasing and equipment use. The project involves construction activities associated with demolition of the paved area, site preparation, grading, construction, and architectural coating applications. Site grading would require approximately 31,500 cubic yards of soil export. The project would be constructed over approximately 26 months. It is assumed that operations of the Project would begin in Summer 2022. The project would be required to implement BAAQMD standard dust control rules.

Operational Emissions

Operational impacts are related to area source emissions and mobile source emissions. Area sources include natural gas for space and water heating, gasoline-powered landscaping and maintenance equipment, consumer products (such as household cleaners). Mobile sources emission are generated from vehicle operations associated with the operation of the proposed Project. Typically, area sources are small sources that contribute very little emissions individually, but when combined may generate substantial amounts of pollutants. Area specific defaults in the CalEEMod were used to calculate area source emissions. Area specific defaults in the CalEEMod were used to calculate area source

[1] Consistent with other co-living projects, the City of San José assumes 1.5 people per bedroom to calculate the anticipated number of residents. That value (1,275 residents) is divided by the average number of people per household in the Downtown, which is 2.1 (per Census data) to calculate the number of units towards the capacity of the Downtown Strategy 2040 FEIR. This would result in 607 units equivalent for this project.

emissions. CalEEMod estimated emissions from the operation of the proposed Project are shown in **Table 1: Operational Emissions**.

Table 1: Operational Emissions (lbs/day)

Source	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Area Source Emissions	14.45	4.34	0.58	0.58
Energy Source Emissions	0.14	1.16	0.09	0.09
Mobile Source Emissions	4.30	14.45	9.57	2.63
Total Emissions	**21.88**	**19.95**	**10.25**	**3.30**
BAAQMD Significance Thresholds	54	54	82	54
Exceed thresholds?	No	No	No	No

Notes:
1. Based on CalEEMod modeling results, worst-case seasonal emissions for area, energy, and mobile emissions have been modeled. Refer to Attachment A (Option 2 Air Quality/GHG Emissions Data) for assumptions used in this analysis.
2. Total project mitigated emissions include use of natural gas hearths only per BAAQMD Regulation 6, Rule 3 (Wood-Burning Devices) and a 20 percent exceedance of Title 24 energy efficiency standards.

CalEEMod was used to calculate average daily emissions for both area source, energy source, and mobile source emissions. As shown in **Table 1**, the Project-related emissions would not exceed the BAAQMD's established thresholds. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Project-generated vehicle emissions have been estimated using CalEEMod. Trip generation rates associated with the project were based on the traffic data within Traffic Operations Analysis, as provided in Appendix H. As noted in the Garden Gate Tower Traffic Analysis, Option 2 would generate approximately 1,412 vehicle trips. As shown in **Table 1**, the net increase in emissions generated by vehicle traffic associated with the project would not exceed established BAAQMD regional thresholds.

Area Source Emissions would be generated due to consumer products, architectural coating, and landscaping that were previously not present on the site. Energy source emissions would be generated due to the Project's electricity and natural gas usage. The Project's primary uses of electricity and natural gas would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. As shown in **Table 1**, area source and energy source emissions from the project would not exceed BAAQMD thresholds for ROG, NO_X, PM_{10}, or $PM_{2.5}$.

Conclusion

The Project would involve the same building footprint and nearly the same exterior building architecture as the original Option 1 of the project. The construction for Option 2 was not separately modeled as it was assumed to have the same demolition, earthwork volumes, construction phasing

and equipment use. Therefore, construction was assumed to be similar. The proposed Project would not result in new impacts relative to cumulative air quality emissions or a substantial increase in the severity of a previously identified significant impact. As shown in **Table 1**, the Project would not exceed BAAQMD's threshold. Therefore, no new or more significant operational air quality impacts than those analyzed in the Downtown Strategy 2040 FEIR would occur and no new or additional mitigation is required.

3.2 Greenhouse Gas Emissions

Construction Emissions

Construction for Option 1 and Option 2 would involve the same building footprint and nearly the same exterior building architecture with the exception of some minor differences in the ground floor layout. The construction for Option 2 was not separately modeled as it was assumed to have the same demolition, earthwork volumes, construction phasing, and equipment use. The proposed Project would result in 56.79 $MTCO_2eq$/year (amortized over 30 years), which represents a total of approximately 1,822.47 $MTCO_2eq$ from construction activities.

Operational Emissions

Option 1 and 2 of the project would generate GHG emissions from direct and indirect sources. Direct emissions include construction, area source, and mobile emissions while indirect are energy consumption, solid waste, and water demand. The project would result in emissions of CO_2, N_2O, and CH_4, and would not result in other GHGs that would facilitate a meaningful analysis. **Table 2, Operational Greenhouse Gas Emissions**, shows the direct and indirect project-related sources. As shown in **Table 2**, the total project-related emissions for Option 2 would result in 3,162.82 $MTCO_2eq$/year. The project's service population is estimated to be approximately 1,275 (residential) which would result in 2.48 $MTCO_2eq$ per service population per year. This is below BAAQMD significance threshold. Therefore Option 2's contribution of GHG emissions would be less than significant.

Conclusion

As proposed, Option 1 and Option 2 include construction of a mixed use residential building. The two existing buildings onsite would be demolished. Both options would involve the same building footprint and nearly the same exterior building architecture with the exception of some minor differences in the ground floor layout. Under Option 2, direct project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation.

The project would be LEED certified as required by City Council policy and would achieve LEED NC v4 Certification through the USGBC. Both options will also incorporate bicycle and pedestrian facilities

and connections into the project as part of the design review and Building Permit process, consistent with City standards and requirements. The Project includes a TDM program to result in a 42 percent reduction in parking. This would include either a car-share or transit pass program, as well as many other potential measures. Therefore, no new or more significant impacts than those analyzed in the Envision 2040 General Plan Final and Supplemental EIRs would occur and no new or additional mitigation is required.

Table 2: Operational Greenhouse Gas Emissions (lbs/day)

Source	CO_2	CH_4		N_2O		Total
	MT/yr[1]	MT/yr[1]	$MTCO_2eq$[2]	MT/yr[1]	$MTCO_2eq$[2]	$MTCO_2eq$[3]
Construction (total 1,822.47 $MTCO_2eq$ amortized of 20 years)	56.58	0.01	0.20	0.0	0.0	56.79
Area Source Emissions	31.61	0.01	0.19	0.0004	0.13	31.94
Energy Source Emissions	979.86	0.04	1.00	0.01	2.98	984.20
Mobile Source Emissions	1,801.12	0.07	1.75	0.0	0.0	1,802.90
Solid Waste Emissions	57.96	3.43	85.75	0.0	0.00	143.59
Water Demand	101.31	1.31	32.75	0.03	8.94	143.40
Total Emissions[3]	**3,028.44**	**4.87**	**121.64**	**0.0404**	**12.05**	**3,162.82**
Total Service Population Emissions[4][5]	2.48 $MTCO_2eq$/ SP					
BAAQMD Significance Thresholds	4.6 $MTCO_2eq$/ SP					
Exceed thresholds?	No					

Notes:

1. Emissions calculated using CalEEMod 2016.3.2. Emissions incorporate reductions from design features such as the downtown infill locations, increase in density, and increase in diversity as the project involves a mixed-use project with 290 dwelling units on an approximately 0.5-acre site in Downtown San Jose.
2. Carbon dioxide equivalent values calculated using the U.S. EPA Website, *Greenhouse Gas Equivalencies Calculator*, https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed June 2019.
3. Totals may be slightly off due to rounding.
4. Service population emissions are based on a service population of 1,275 based on the Project Description (850 bedrooms with 1.5 people per bedroom = 1,275 people).
5. The project's total service population emissions were calculated by dividing the total proposed project-related emissions (3,162.82 $MTCO_2eq$/yr) by the service population (1,275); therefore, 3,162.82/1,275 = 2.48

Source: CalEEMod version 2016.3.2. Refer to Attachment A (Option 2 Air Quality/GHG Emissions Data) for model outputs.

Attachment A

Option 2 Air Quality/GHG Emissions Data

Garden Gate Tower - Option 2 - Santa Clara County, Summer

Garden Gate Tower - Option 2

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	124.00		0.00	0.00	0
Apartments High Rise	607.00	Dwelling Unit	0.40	607,000.00	1275
Strip Mall	6.00	1000sqft	0.14	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 850 bedrooms with 1.5 people per bedroom = 1,275 people. Divided by 2.1 persons per household = 607 DU

Construction Phase - Operational Only run

Off-road Equipment - Operational only

Vehicle Trips - Per TIA

Woodstoves -

Mobile Land Use Mitigation - Project density is 607 DU per 0.5 acre, downtown infill with mix of uses

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation - Per AB939

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LotAcreage	9.79	0.40
tblLandUse	Population	1,736.00	1,275.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblVehicleTrips	ST_TR	4.98	4.45
tblVehicleTrips	ST_TR	42.04	9.74
tblVehicleTrips	SU_TR	3.65	4.45
tblVehicleTrips	SU_TR	20.43	9.74
tblVehicleTrips	WD_TR	4.20	4.45
tblVehicleTrips	WD_TR	44.32	9.74

2.0 Emissions Summary

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

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	266.6428	6.1000	380.0751	0.6381		47.0987	47.0987		47.0987	47.0987	5,081.1037	2,339.6703	7,420.7740	7.0412	0.3592	7,703.8303
Energy	0.1554	1.3279	0.5666	8.4700e-003		0.1073	0.1073		0.1073	0.1073		1,694.8803	1,694.8803	0.0325	0.0311	1,704.9521
Mobile	4.7132	16.4900	50.1708	0.1582	13.3872	0.1493	13.5365	3.5736	0.1401	3.7137		15,930.1023	15,930.1023	0.5534		15,943.9381
Total	**271.5114**	**23.9179**	**430.8126**	**0.8047**	**13.3872**	**47.3553**	**60.7425**	**3.5736**	**47.3461**	**50.9197**	**5,081.1037**	**19,964.6529**	**25,045.7566**	**7.6271**	**0.3902**	**25,352.7205**

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	17.4478	4.3404	51.8577	0.0266		0.5803	0.5803		0.5803	0.5803	0.0000	4,889.0703	4,889.0703	0.1800	0.0880	4,919.7877
Energy	0.1356	1.1590	0.4945	7.4000e-003		0.0937	0.0937		0.0937	0.0937		1,479.3586	1,479.3586	0.0284	0.0271	1,488.1496
Mobile	4.2957	13.7652	38.5785	0.1148	9.4637	0.1104	9.5741	2.5263	0.1035	2.6297		11,568.5233	11,568.5233	0.4311		11,579.3019
Total	**21.8791**	**19.2645**	**90.9306**	**0.1489**	**9.4637**	**0.7843**	**10.2480**	**2.5263**	**0.7774**	**3.3037**	**0.0000**	**17,936.9522**	**17,936.9522**	**0.6395**	**0.1151**	**17,987.2392**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**91.94**	**19.46**	**78.89**	**81.50**	**29.31**	**98.34**	**83.13**	**29.31**	**98.36**	**93.51**	**100.00**	**10.16**	**28.38**	**91.62**	**70.50**	**29.05**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	12/31/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive 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	4.2957	13.7652	38.5785	0.1148	9.4637	0.1104	9.5741	2.5263	0.1035	2.6297		11,568.5233	11,568.5233	0.4311		11,579.3019
Unmitigated	4.7132	16.4900	50.1708	0.1582	13.3872	0.1493	13.5365	3.5736	0.1401	3.7137		15,930.1023	15,930.1023	0.5534		15,943.9381

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,701.15	2,701.15	2701.15	6,238,596	4,410,204
Strip Mall	58.44	58.44	58.44	90,000	63,623
Total	2,759.59	2,759.59	2,759.59	6,328,595	4,473,827

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 High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Enclosed Parking with Elevator	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Strip Mall	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	0.1356	1.1590	0.4945	7.4000e-003		0.0937	0.0937		0.0937	0.0937		1,479.3586	1,479.3586	0.0284	0.0271	1,488.1496
NaturalGas Unmitigated	0.1554	1.3279	0.5666	8.4700e-003		0.1073	0.1073		0.1073	0.1073		1,694.8803	1,694.8803	0.0325	0.0311	1,704.9521

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 High Rise	14367.5	0.1549	1.3241	0.5634	8.4500e-003		0.1071	0.1071		0.1071	0.1071		1,690.2969	1,690.2969	0.0324	0.0310	1,700.3415
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
Strip Mall	38.9589	4.2000e-004	3.8200e-003	3.2100e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5834	4.5834	9.0000e-005	8.0000e-005	4.6106
Total		**0.1554**	**1.3279**	**0.5666**	**8.4700e-003**		**0.1073**	**0.1073**		**0.1073**	**0.1073**		**1,694.8803**	**1,694.8803**	**0.0325**	**0.0311**	**1,704.9521**

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 High Rise	12.5434	0.1353	1.1560	0.4919	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,475.6918	1,475.6918	0.0283	0.0271	1,484.4611
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
Strip Mall	0.0311671	3.4000e-004	3.0600e-003	2.5700e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		3.6667	3.6667	7.0000e-005	7.0000e-005	3.6885
Total		**0.1356**	**1.1590**	**0.4945**	**7.4000e-003**		**0.0937**	**0.0937**		**0.0937**	**0.0937**		**1,479.3586**	**1,479.3586**	**0.0284**	**0.0271**	**1,488.1496**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive 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	17.4478	4.3404	51.8577	0.0266		0.5803	0.5803		0.5803	0.5803	0.0000	4,889.0703	4,889.0703	0.1800	0.0880	4,919.7877
Unmitigated	266.6428	6.1000	380.0751	0.6381		47.0987	47.0987		47.0987	47.0987	5,081.1037	2,339.6703	7,420.7740	7.0412	0.3592	7,703.8303

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	13.1182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	249.6349	5.5187	329.8170	0.6354		46.8224	46.8224		46.8224	46.8224	5,081.1037	2,249.4706	7,330.5743	6.9532	0.3592	7,611.4305
Landscaping	1.5313	0.5813	50.2581	2.6500e-003		0.2763	0.2763		0.2763	0.2763		90.1997	90.1997	0.0880		92.3998
Total	**266.6428**	**6.1000**	**380.0751**	**0.6381**		**47.0987**	**47.0987**		**47.0987**	**47.0987**	**5,081.1037**	**2,339.6703**	**7,420.7740**	**7.0412**	**0.3592**	**7,703.8302**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.1182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4399	3.7591	1.5996	0.0240		0.3039	0.3039		0.3039	0.3039	0.0000	4,798.8706	4,798.8706	0.0920	0.0880	4,827.3879
Landscaping	1.5313	0.5813	50.2581	2.6500e-003		0.2763	0.2763		0.2763	0.2763		90.1997	90.1997	0.0880		92.3998
Total	**17.4478**	**4.3404**	**51.8577**	**0.0266**		**0.5803**	**0.5803**		**0.5803**	**0.5803**	**0.0000**	**4,889.0703**	**4,889.0703**	**0.1800**	**0.0880**	**4,919.7877**

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

Garden Gate Tower - Option 2 - Santa Clara County, Winter

Garden Gate Tower - Option 2

Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	124.00		0.00	0.00	0
Apartments High Rise	607.00	Dwelling Unit	0.40	607,000.00	1275
Strip Mall	6.00	1000sqft	0.14	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 850 bedrooms with 1.5 people per bedroom = 1,275 people. Divided by 2.1 persons per household = 607 DU

Construction Phase - Operational Only run

Off-road Equipment - Operational only

Vehicle Trips - Per TIA

Woodstoves -

Mobile Land Use Mitigation - Project density is 607 DU per 0.5 acre, downtown infill with mix of uses

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation - Per AB939

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LotAcreage	9.79	0.40
tblLandUse	Population	1,736.00	1,275.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblVehicleTrips	ST_TR	4.98	4.45
tblVehicleTrips	ST_TR	42.04	9.74
tblVehicleTrips	SU_TR	3.65	4.45
tblVehicleTrips	SU_TR	20.43	9.74
tblVehicleTrips	WD_TR	4.20	4.45
tblVehicleTrips	WD_TR	44.32	9.74

2.0 Emissions Summary

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

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	266.6428	6.1000	380.0751	0.6381		47.0987	47.0987		47.0987	47.0987	5,081.1037	2,339.6703	7,420.7740	7.0412	0.3592	7,703.8303
Energy	0.1554	1.3279	0.5666	8.4700e-003		0.1073	0.1073		0.1073	0.1073		1,694.8803	1,694.8803	0.0325	0.0311	1,704.9521
Mobile	4.1068	17.4746	50.0589	0.1473	13.3872	0.1503	13.5374	3.5736	0.1410	3.7146		14,839.2913	14,839.2913	0.5587		14,853.2580
Total	**270.9050**	**24.9024**	**430.7007**	**0.7938**	**13.3872**	**47.3563**	**60.7434**	**3.5736**	**47.3470**	**50.9206**	**5,081.1037**	**18,873.8419**	**23,954.9455**	**7.6324**	**0.3902**	**24,262.0404**

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	17.4478	4.3404	51.8577	0.0266		0.5803	0.5803		0.5803	0.5803	0.0000	4,889.0703	4,889.0703	0.1800	0.0880	4,919.7877
Energy	0.1356	1.1590	0.4945	7.4000e-003		0.0937	0.0937		0.0937	0.0937		1,479.3586	1,479.3586	0.0284	0.0271	1,488.1496
Mobile	3.6991	14.4536	39.8699	0.1069	9.4637	0.1113	9.5750	2.5263	0.1044	2.6306		10,773.3857	10,773.3857	0.4437		10,784.4776
Total	**21.2825**	**19.9529**	**92.2220**	**0.1410**	**9.4637**	**0.7853**	**10.2490**	**2.5263**	**0.7783**	**3.3046**	**0.0000**	**17,141.8145**	**17,141.8145**	**0.6520**	**0.1151**	**17,192.4149**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**92.14**	**19.88**	**78.59**	**82.24**	**29.31**	**98.34**	**83.13**	**29.31**	**98.36**	**93.51**	**100.00**	**9.18**	**28.44**	**91.46**	**70.50**	**29.14**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	12/31/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive 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	3.6991	14.4536	39.8699	0.1069	9.4637	0.1113	9.5750	2.5263	0.1044	2.6306		10,773.3857	10,773.3857	0.4437		10,784.4776
Unmitigated	4.1068	17.4746	50.0589	0.1473	13.3872	0.1503	13.5374	3.5736	0.1410	3.7146		14,839.2913	14,839.2913	0.5587		14,853.2580

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,701.15	2,701.15	2701.15	6,238,596	4,410,204
Strip Mall	58.44	58.44	58.44	90,000	63,623
Total	2,759.59	2,759.59	2,759.59	6,328,595	4,473,827

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 High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Enclosed Parking with Elevator	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Strip Mall	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	0.1356	1.1590	0.4945	7.4000e-003		0.0937	0.0937		0.0937	0.0937		1,479.3586	1,479.3586	0.0284	0.0271	1,488.1496
NaturalGas Unmitigated	0.1554	1.3279	0.5666	8.4700e-003		0.1073	0.1073		0.1073	0.1073		1,694.8803	1,694.8803	0.0325	0.0311	1,704.9521

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 High Rise	14367.5	0.1549	1.3241	0.5634	8.4500e-003		0.1071	0.1071		0.1071	0.1071		1,690.2969	1,690.2969	0.0324	0.0310	1,700.3415
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
Strip Mall	38.9589	4.2000e-004	3.8200e-003	3.2100e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5834	4.5834	9.0000e-005	8.0000e-005	4.6106
Total		**0.1554**	**1.3279**	**0.5666**	**8.4700e-003**		**0.1073**	**0.1073**		**0.1073**	**0.1073**		**1,694.8803**	**1,694.8803**	**0.0325**	**0.0311**	**1,704.9521**

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 High Rise	12.5434	0.1353	1.1560	0.4919	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,475.6918	1,475.6918	0.0283	0.0271	1,484.4611
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
Strip Mall	0.0311671	3.4000e-004	3.0600e-003	2.5700e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		3.6667	3.6667	7.0000e-005	7.0000e-005	3.6885
Total		**0.1356**	**1.1590**	**0.4945**	**7.4000e-003**		**0.0937**	**0.0937**		**0.0937**	**0.0937**		**1,479.3586**	**1,479.3586**	**0.0284**	**0.0271**	**1,488.1496**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive 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	17.4478	4.3404	51.8577	0.0266		0.5803	0.5803		0.5803	0.5803	0.0000	4,889.0703	4,889.0703	0.1800	0.0880	4,919.7877
Unmitigated	266.6428	6.1000	380.0751	0.6381		47.0987	47.0987		47.0987	47.0987	5,081.1037	2,339.6703	7,420.7740	7.0412	0.3592	7,703.8303

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	13.1182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	249.6349	5.5187	329.8170	0.6354		46.8224	46.8224		46.8224	46.8224	5,081.1037	2,249.4706	7,330.5743	6.9532	0.3592	7,611.4305
Landscaping	1.5313	0.5813	50.2581	2.6500e-003		0.2763	0.2763		0.2763	0.2763		90.1997	90.1997	0.0880		92.3998
Total	**266.6428**	**6.1000**	**380.0751**	**0.6381**		**47.0987**	**47.0987**		**47.0987**	**47.0987**	**5,081.1037**	**2,339.6703**	**7,420.7740**	**7.0412**	**0.3592**	**7,703.8302**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.1182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4399	3.7591	1.5996	0.0240		0.3039	0.3039		0.3039	0.3039	0.0000	4,798.8706	4,798.8706	0.0920	0.0880	4,827.3879
Landscaping	1.5313	0.5813	50.2581	2.6500e-003		0.2763	0.2763		0.2763	0.2763		90.1997	90.1997	0.0880		92.3998
Total	**17.4478**	**4.3404**	**51.8577**	**0.0266**		**0.5803**	**0.5803**		**0.5803**	**0.5803**	**0.0000**	**4,889.0703**	**4,889.0703**	**0.1800**	**0.0880**	**4,919.7877**

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

Garden Gate Tower - Option 2

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	124.00		0.00	0.00	0
Apartments High Rise	607.00	Dwelling Unit	0.40	607,000.00	1275
Strip Mall	6.00	1000sqft	0.14	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 850 bedrooms with 1.5 people per bedroom = 1,275 people. Divided by 2.1 persons per household = 607 DU

Construction Phase - Operational Only run

Off-road Equipment - Operational only

Vehicle Trips - Per TIA

Woodstoves -

Mobile Land Use Mitigation - Project density is 607 DU per 0.5 acre, downtown infill with mix of uses

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation - Per AB939

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LotAcreage	9.79	0.40
tblLandUse	Population	1,736.00	1,275.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblVehicleTrips	ST_TR	4.98	4.45
tblVehicleTrips	ST_TR	42.04	9.74
tblVehicleTrips	SU_TR	3.65	4.45
tblVehicleTrips	SU_TR	20.43	9.74
tblVehicleTrips	WD_TR	4.20	4.45
tblVehicleTrips	WD_TR	44.32	9.74

2.0 Emissions Summary

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		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	4.3628	0.0845	6.4518	4.0800e-003		0.3006	0.3006		0.3006	0.3006	27.6730	18.7311	46.4041	0.0517	1.8100e-003	48.2364
Energy	0.0284	0.2423	0.1034	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	1,028.2630	1,028.2630	0.0392	0.0121	1,032.8601
Mobile	0.7496	3.1096	8.7287	0.0271	2.3534	0.0272	2.3806	0.6300	0.0255	0.6555	0.0000	2,478.5347	2,478.5347	0.0901	0.0000	2,480.7880
Waste						0.0000	0.0000		0.0000	0.0000	57.9580	0.0000	57.9580	3.4252	0.0000	143.5884
Water						0.0000	0.0000		0.0000	0.0000	12.6879	88.6174	101.3053	1.3072	0.0316	143.4014
Total	**5.1408**	**3.4365**	**15.2839**	**0.0327**	**2.3534**	**0.3474**	**2.7008**	**0.6300**	**0.3457**	**0.9757**	**98.3188**	**3,614.1462**	**3,712.4650**	**4.9134**	**0.0456**	**3,848.8743**

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	2.9648	0.0733	4.5321	3.7000e-004		0.0266	0.0266		0.0266	0.0266	0.0000	31.6133	31.6133	7.6500e-003	4.4000e-004	31.9370
Energy	0.0248	0.2115	0.0902	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	979.8637	979.8637	0.0379	0.0114	984.1989
Mobile	0.6758	2.5823	6.8704	0.0197	1.6637	0.0201	1.6838	0.4454	0.0189	0.4642	0.0000	1,801.1244	1,801.1244	0.0711	0.0000	1,802.9007
Waste						0.0000	0.0000		0.0000	0.0000	57.9580	0.0000	57.9580	3.4252	0.0000	143.5884
Water						0.0000	0.0000		0.0000	0.0000	12.6879	88.6174	101.3053	1.3072	0.0316	143.4014
Total	**3.6653**	**2.8671**	**11.4928**	**0.0214**	**1.6637**	**0.0638**	**1.7274**	**0.4454**	**0.0625**	**0.5079**	**70.6459**	**2,901.2188**	**2,971.8647**	**4.8490**	**0.0434**	**3,106.0264**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**28.70**	**16.57**	**24.80**	**34.58**	**29.31**	**81.64**	**36.04**	**29.31**	**81.91**	**47.95**	**28.15**	**19.73**	**19.95**	**1.31**	**4.70**	**19.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	12/31/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive 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	0.6758	2.5823	6.8704	0.0197	1.6637	0.0201	1.6838	0.4454	0.0189	0.4642	0.0000	1,801.1244	1,801.1244	0.0711	0.0000	1,802.9007
Unmitigated	0.7496	3.1096	8.7287	0.0271	2.3534	0.0272	2.3806	0.6300	0.0255	0.6555	0.0000	2,478.5347	2,478.5347	0.0901	0.0000	2,480.7880

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,701.15	2,701.15	2701.15	6,238,596	4,410,204
Strip Mall	58.44	58.44	58.44	90,000	63,623
Total	2,759.59	2,759.59	2,759.59	6,328,595	4,473,827

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Enclosed Parking with Elevator	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Strip Mall	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	734.9393	734.9393	0.0332	6.8800e-003	737.8190
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	747.6566	747.6566	0.0338	6.9900e-003	750.5861
NaturalGas Mitigated	0.0248	0.2115	0.0902	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	244.9244	244.9244	4.6900e-003	4.4900e-003	246.3799
NaturalGas Unmitigated	0.0284	0.2423	0.1034	1.5500e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.6064	280.6064	5.3800e-003	5.1400e-003	282.2740

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 High Rise	5.24415e+006	0.0283	0.2416	0.1028	1.5400e-003		0.0195	0.0195		0.0195	0.0195	0.0000	279.8476	279.8476	5.3600e-003	5.1300e-003	281.5106
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
Strip Mall	14220	8.0000e-005	7.0000e-004	5.9000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7588	0.7588	1.0000e-005	1.0000e-005	0.7633
Total		**0.0284**	**0.2423**	**0.1034**	**1.5400e-003**		**0.0196**	**0.0196**		**0.0196**	**0.0196**	**0.0000**	**280.6064**	**280.6064**	**5.3700e-003**	**5.1400e-003**	**282.2739**

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 High Rise	4.57833e+006	0.0247	0.2110	0.0898	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	244.3173	244.3173	4.6800e-003	4.4800e-003	245.7692
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
Strip Mall	11376	6.0000e-005	5.6000e-004	4.7000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6071	0.6071	1.0000e-005	1.0000e-005	0.6107
Total		**0.0248**	**0.2115**	**0.0902**	**1.3500e-003**		**0.0171**	**0.0171**		**0.0171**	**0.0171**	**0.0000**	**244.9244**	**244.9244**	**4.6900e-003**	**4.4900e-003**	**246.3799**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.50591e+006	728.9975	0.0330	6.8200e-003	731.8539
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	64140	18.6591	8.4000e-004	1.7000e-004	18.7322
Total		**747.6566**	**0.0338**	**6.9900e-003**	**750.5861**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.46551e+006	717.2438	0.0324	6.7100e-003	720.0541
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	60828	17.6956	8.0000e-004	1.7000e-004	17.7649
Total		**734.9393**	**0.0332**	**6.8800e-003**	**737.8190**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive 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	2.9648	0.0733	4.5321	3.7000e-004		0.0266	0.0266		0.0266	0.0266	0.0000	31.6133	31.6133	7.6500e-003	4.4000e-004	31.9370
Unmitigated	4.3628	0.0845	6.4518	4.0800e-003		0.3006	0.3006		0.3006	0.3006	27.6730	18.7311	46.4041	0.0517	1.8100e-003	48.2364

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	0.4304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3941					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4005	0.0322	1.9286	3.8400e-003		0.2757	0.2757		0.2757	0.2757	27.6730	11.3666	39.0396	0.0445	1.8100e-003	40.6923
Landscaping	0.1378	0.0523	4.5232	2.4000e-004		0.0249	0.0249		0.0249	0.0249	0.0000	7.3645	7.3645	7.1900e-003	0.0000	7.5441
Total	**4.3628**	**0.0845**	**6.4518**	**4.0800e-003**		**0.3006**	**0.3006**		**0.3006**	**0.3006**	**27.6730**	**18.7311**	**46.4041**	**0.0517**	**1.8100e-003**	**48.2364**

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	0.4304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3941					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.4500e-003	0.0209	8.9100e-003	1.3000e-004		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003	0.0000	24.2488	24.2488	4.6000e-004	4.4000e-004	24.3929
Landscaping	0.1378	0.0523	4.5232	2.4000e-004		0.0249	0.0249		0.0249	0.0249	0.0000	7.3645	7.3645	7.1900e-003	0.0000	7.5441
Total	**2.9648**	**0.0733**	**4.5321**	**3.7000e-004**		**0.0266**	**0.0266**		**0.0266**	**0.0266**	**0.0000**	**31.6133**	**31.6133**	**7.6500e-003**	**4.4000e-004**	**31.9370**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	101.3053	1.3072	0.0316	143.4014
Unmitigated	101.3053	1.3072	0.0316	143.4014

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	39.5485 / 24.9327	100.1873	1.2927	0.0313	141.8157
Strip Mall	0.444435 / 0.272396	1.1179	0.0145	3.5000e-004	1.5857
Total		**101.3053**	**1.3072**	**0.0316**	**143.4014**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments High Rise	39.5485 / 24.9327	100.1873	1.2927	0.0313	141.8157
Strip Mall	0.444435 / 0.272396	1.1179	0.0145	3.5000e-004	1.5857
Total		**101.3053**	**1.3072**	**0.0316**	**143.4014**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	57.9580	3.4252	0.0000	143.5884
Unmitigated	57.9580	3.4252	0.0000	143.5884

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	279.22	56.6791	3.3496	0.0000	140.4202

Strip Mall	6.3	1.2788	0.0756	0.0000	3.1683
Total		**57.9580**	**3.4252**	**0.0000**	**143.5884**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	279.22	56.6791	3.3496	0.0000	140.4202
Strip Mall	6.3	1.2788	0.0756	0.0000	3.1683
Total		**57.9580**	**3.4252**	**0.0000**	**143.5884**

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