

**APPENDIX 4.2-4**

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**Air Quality and GHG Calculations for Summer, Construction**

**Azusa TOD Construction**  
**South Coast AQMD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	4.65	1000sqft	0.11	4,650.00	0
Hotel	8.00	Room	0.27	11,616.00	0
Apartments Mid Rise	42.00	Dwelling Unit	1.11	42,000.00	146
Regional Shopping Center	11.30	1000sqft	0.26	11,300.00	0
Strip Mall	4.20	1000sqft	0.10	4,200.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	9			<b>Operational Year</b>	2035
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	630.89	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - 2035 operational year

Land Use - 4,650 retail, 7,500 office, 4,200 services (assumed as strip mall), 8 room lodging (assumed as hotel), 42 units (assumed as apartments mid rise), 146 persons

Construction Phase - Construction all year long, for 2020 middle of buildout

Woodstoves - no stoves/fireplaces

Energy Use -

Energy Mitigation - assume 25% improvement over 2008 Title 24 due to compliance with 2013 Title 24 standards

Demolition - 90,000 sf total, 4,500 per year

Grading - 17 acres disturbed total, 0.85 acres per year

Construction Off-road Equipment Mitigation - water 3X

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	262.00
tblConstructionPhase	NumDays	20.00	262.00
tblConstructionPhase	NumDays	10.00	262.00
tblConstructionPhase	NumDays	2.00	262.00
tblConstructionPhase	NumDays	10.00	262.00
tblConstructionPhase	PhaseEndDate	1/3/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	1/3/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	1/3/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	1/3/2022	12/31/2020
tblConstructionPhase	PhaseStartDate	1/1/2021	1/1/2020
tblConstructionPhase	PhaseStartDate	1/1/2021	1/1/2020
tblConstructionPhase	PhaseStartDate	1/1/2021	1/1/2020
tblConstructionPhase	PhaseStartDate	1/1/2021	1/1/2020
tblGrading	AcresOfGrading	131.00	0.85
tblLandUse	Population	120.00	146.00
tblProjectCharacteristics	OperationalYear	2014	2035

## 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	11.2427	63.3282	60.6659	0.0939	6.2925	3.3779	9.6703	3.1666	3.1698	6.3364	0.0000	8,628.3049	8,628.3049	1.9803	0.0000	8,669.8901
<b>Total</b>	<b>11.2427</b>	<b>63.3282</b>	<b>60.6659</b>	<b>0.0939</b>	<b>6.2925</b>	<b>3.3779</b>	<b>9.6703</b>	<b>3.1666</b>	<b>3.1698</b>	<b>6.3364</b>	<b>0.0000</b>	<b>8,628.3049</b>	<b>8,628.3049</b>	<b>1.9803</b>	<b>0.0000</b>	<b>8,669.8901</b>

#### 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	11.2427	63.3282	60.6659	0.0939	3.0658	3.3779	6.4436	1.3979	3.1698	4.5678	0.0000	8,628.3049	8,628.3049	1.9803	0.0000	8,669.8901
<b>Total</b>	<b>11.2427</b>	<b>63.3282</b>	<b>60.6659</b>	<b>0.0939</b>	<b>3.0658</b>	<b>3.3779</b>	<b>6.4436</b>	<b>1.3979</b>	<b>3.1698</b>	<b>4.5678</b>	<b>0.0000</b>	<b>8,628.3049</b>	<b>8,628.3049</b>	<b>1.9803</b>	<b>0.0000</b>	<b>8,669.8901</b>

	ROG	NOx	CO	SO2	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	51.28	0.00	33.37	55.85	0.00	27.91	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	12.8613	0.3191	24.5667	0.0338		3.2275	3.2275		3.2270	3.2270	393.4106	762.2454	1,155.6559	1.1792	0.0267	1,188.6963
Energy	0.0232	0.2040	0.1278	1.2600e-003		0.0160	0.0160		0.0160	0.0160		252.8504	252.8504	4.8500e-003	4.6400e-003	254.3892
Mobile	2.1407	4.6755	22.0783	0.0976	6.2165	0.1332	6.3497	1.6623	0.1230	1.7852		6,967.1069	6,967.1069	0.1762		6,970.8066
<b>Total</b>	<b>15.0251</b>	<b>5.1985</b>	<b>46.7727</b>	<b>0.1326</b>	<b>6.2165</b>	<b>3.3768</b>	<b>9.5933</b>	<b>1.6623</b>	<b>3.3660</b>	<b>5.0283</b>	<b>393.4106</b>	<b>7,982.2026</b>	<b>8,375.6132</b>	<b>1.3602</b>	<b>0.0313</b>	<b>8,413.8921</b>

### 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	12.8613	0.3191	24.5667	0.0338		3.2275	3.2275		3.2270	3.2270	393.4106	762.2454	1,155.6559	1.1792	0.0267	1,188.6963
Energy	0.0183	0.1614	0.1009	1.0000e-003		0.0127	0.0127		0.0127	0.0127		200.0136	200.0136	3.8300e-003	3.6700e-003	201.2309
Mobile	2.1407	4.6755	22.0783	0.0976	6.2165	0.1332	6.3497	1.6623	0.1230	1.7852		6,967.1069	6,967.1069	0.1762		6,970.8066
<b>Total</b>	<b>15.0203</b>	<b>5.1559</b>	<b>46.7459</b>	<b>0.1324</b>	<b>6.2165</b>	<b>3.3735</b>	<b>9.5900</b>	<b>1.6623</b>	<b>3.3627</b>	<b>5.0249</b>	<b>393.4106</b>	<b>7,929.3658</b>	<b>8,322.7764</b>	<b>1.3592</b>	<b>0.0304</b>	<b>8,360.7338</b>

	ROG	NOx	CO	SO2	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	0.03	0.82	0.06	0.20	0.00	0.10	0.03	0.00	0.10	0.07	0.00	0.66	0.63	0.07	3.10	0.63

### 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	12/31/2020	5	262	
2	Site Prep	Site Preparation	1/1/2020	12/31/2020	5	262	
3	Building Construction	Building Construction	1/1/2020	12/31/2020	5	262	
4	Paving	Paving	1/1/2020	12/31/2020	5	262	
5	Coatings	Architectural Coating	1/1/2020	12/31/2020	5	262	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 85,050; Residential Outdoor: 28,350; Non-Residential Indoor: 47,649; Non-Residential Outdoor: 15,883 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Coatings	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Site Prep	Rubber Tired Dozers	1	7.00	255	0.40
Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Prep	Graders	1	8.00	174	0.41
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	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
Building Construction	7	42.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Coatings	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	20.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Prep	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT



### 3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

### 3.2 Demolition - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0169	0.0000	0.0169	2.5600e-003	0.0000	2.5600e-003			0.0000			0.0000
Off-Road	2.0090	19.7619	18.4615	0.0245		1.0636	1.0636		0.9944	0.9944		2,358.0394	2,358.0394	0.6085		2,370.8179
<b>Total</b>	<b>2.0090</b>	<b>19.7619</b>	<b>18.4615</b>	<b>0.0245</b>	<b>0.0169</b>	<b>1.0636</b>	<b>1.0805</b>	<b>2.5600e-003</b>	<b>0.9944</b>	<b>0.9970</b>		<b>2,358.0394</b>	<b>2,358.0394</b>	<b>0.6085</b>		<b>2,370.8179</b>

### 3.2 Demolition - 2020

#### 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	1.1500e-003	0.0148	0.0134	6.0000e-005	1.3300e-003	3.0000e-004	1.6300e-003	3.6000e-004	2.8000e-004	6.4000e-004		5.2595	5.2595	4.0000e-005		5.2603
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	0.0380	0.0473	0.5947	1.8400e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0300e-003	0.0396		132.1751	132.1751	6.0200e-003		132.3016
<b>Total</b>	<b>0.0391</b>	<b>0.0621</b>	<b>0.6081</b>	<b>1.9000e-003</b>	<b>0.1466</b>	<b>1.4100e-003</b>	<b>0.1481</b>	<b>0.0389</b>	<b>1.3100e-003</b>	<b>0.0402</b>		<b>137.4345</b>	<b>137.4345</b>	<b>6.0600e-003</b>		<b>137.5618</b>

#### 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					6.5900e-003	0.0000	6.5900e-003	1.0000e-003	0.0000	1.0000e-003			0.0000			0.0000
Off-Road	2.0090	19.7619	18.4615	0.0245		1.0636	1.0636		0.9944	0.9944	0.0000	2,358.0394	2,358.0394	0.6085		2,370.8179
<b>Total</b>	<b>2.0090</b>	<b>19.7619</b>	<b>18.4615</b>	<b>0.0245</b>	<b>6.5900e-003</b>	<b>1.0636</b>	<b>1.0702</b>	<b>1.0000e-003</b>	<b>0.9944</b>	<b>0.9954</b>	<b>0.0000</b>	<b>2,358.0394</b>	<b>2,358.0394</b>	<b>0.6085</b>		<b>2,370.8179</b>

### 3.2 Demolition - 2020

#### 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	1.1500e-003	0.0148	0.0134	6.0000e-005	1.3300e-003	3.0000e-004	1.6300e-003	3.6000e-004	2.8000e-004	6.4000e-004		5.2595	5.2595	4.0000e-005		5.2603
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	0.0380	0.0473	0.5947	1.8400e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0300e-003	0.0396		132.1751	132.1751	6.0200e-003		132.3016
<b>Total</b>	<b>0.0391</b>	<b>0.0621</b>	<b>0.6081</b>	<b>1.9000e-003</b>	<b>0.1466</b>	<b>1.4100e-003</b>	<b>0.1481</b>	<b>0.0389</b>	<b>1.3100e-003</b>	<b>0.0402</b>		<b>137.4345</b>	<b>137.4345</b>	<b>6.0600e-003</b>		<b>137.5618</b>

### 3.3 Site Prep - 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					5.2728	0.0000	5.2728	2.8968	0.0000	2.8968			0.0000			0.0000
Off-Road	1.7646	17.9430	13.7796	0.0171		0.9292	0.9292		0.8548	0.8548		1,657.4350	1,657.4350	0.5361		1,668.6920
<b>Total</b>	<b>1.7646</b>	<b>17.9430</b>	<b>13.7796</b>	<b>0.0171</b>	<b>5.2728</b>	<b>0.9292</b>	<b>6.2019</b>	<b>2.8968</b>	<b>0.8548</b>	<b>3.7517</b>		<b>1,657.4350</b>	<b>1,657.4350</b>	<b>0.5361</b>		<b>1,668.6920</b>

**3.3 Site Prep - 2020**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0234	0.0291	0.3660	1.1300e-003	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0244		81.3385	81.3385	3.7100e-003		81.4163
<b>Total</b>	<b>0.0234</b>	<b>0.0291</b>	<b>0.3660</b>	<b>1.1300e-003</b>	<b>0.0894</b>	<b>6.8000e-004</b>	<b>0.0901</b>	<b>0.0237</b>	<b>6.3000e-004</b>	<b>0.0244</b>		<b>81.3385</b>	<b>81.3385</b>	<b>3.7100e-003</b>		<b>81.4163</b>

**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					2.0564	0.0000	2.0564	1.1298	0.0000	1.1298			0.0000			0.0000
Off-Road	1.7646	17.9430	13.7796	0.0171		0.9292	0.9292		0.8548	0.8548	0.0000	1,657.4349	1,657.4349	0.5361		1,668.6920
<b>Total</b>	<b>1.7646</b>	<b>17.9430</b>	<b>13.7796</b>	<b>0.0171</b>	<b>2.0564</b>	<b>0.9292</b>	<b>2.9856</b>	<b>1.1298</b>	<b>0.8548</b>	<b>1.9846</b>	<b>0.0000</b>	<b>1,657.4349</b>	<b>1,657.4349</b>	<b>0.5361</b>		<b>1,668.6920</b>

### 3.3 Site Prep - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0234	0.0291	0.3660	1.1300e-003	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0244		81.3385	81.3385	3.7100e-003		81.4163
<b>Total</b>	<b>0.0234</b>	<b>0.0291</b>	<b>0.3660</b>	<b>1.1300e-003</b>	<b>0.0894</b>	<b>6.8000e-004</b>	<b>0.0901</b>	<b>0.0237</b>	<b>6.3000e-004</b>	<b>0.0244</b>		<b>81.3385</b>	<b>81.3385</b>	<b>3.7100e-003</b>		<b>81.4163</b>

### 3.4 Building Construction - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0231	14.7007	13.1537	0.0220		0.7923	0.7923		0.7655	0.7655		1,992.0882	1,992.0882	0.3686		1,999.8279
<b>Total</b>	<b>2.0231</b>	<b>14.7007</b>	<b>13.1537</b>	<b>0.0220</b>		<b>0.7923</b>	<b>0.7923</b>		<b>0.7655</b>	<b>0.7655</b>		<b>1,992.0882</b>	<b>1,992.0882</b>	<b>0.3686</b>		<b>1,999.8279</b>

### 3.4 Building Construction - 2020

#### 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	0.0643	0.5807	0.8297	2.1600e-003	0.0625	0.0104	0.0729	0.0178	9.5600e-003	0.0274		202.1450	202.1450	1.4300e-003			202.1751
Worker	0.1226	0.1528	1.9213	5.9300e-003	0.4695	3.5900e-003	0.4731	0.1245	3.3300e-003	0.1278		427.0271	427.0271	0.0195			427.4358
<b>Total</b>	<b>0.1869</b>	<b>0.7334</b>	<b>2.7510</b>	<b>8.0900e-003</b>	<b>0.5320</b>	<b>0.0140</b>	<b>0.5460</b>	<b>0.1423</b>	<b>0.0129</b>	<b>0.1552</b>		<b>629.1721</b>	<b>629.1721</b>	<b>0.0209</b>			<b>629.6109</b>

#### 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	2.0231	14.7007	13.1537	0.0220		0.7923	0.7923		0.7655	0.7655	0.0000	1,992.0882	1,992.0882	0.3686			1,999.8279
<b>Total</b>	<b>2.0231</b>	<b>14.7007</b>	<b>13.1537</b>	<b>0.0220</b>		<b>0.7923</b>	<b>0.7923</b>		<b>0.7655</b>	<b>0.7655</b>	<b>0.0000</b>	<b>1,992.0882</b>	<b>1,992.0882</b>	<b>0.3686</b>			<b>1,999.8279</b>

### 3.4 Building Construction - 2020

#### 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	0.0643	0.5807	0.8297	2.1600e-003	0.0625	0.0104	0.0729	0.0178	9.5600e-003	0.0274		202.1450	202.1450	1.4300e-003			202.1751
Worker	0.1226	0.1528	1.9213	5.9300e-003	0.4695	3.5900e-003	0.4731	0.1245	3.3300e-003	0.1278		427.0271	427.0271	0.0195			427.4358
<b>Total</b>	<b>0.1869</b>	<b>0.7334</b>	<b>2.7510</b>	<b>8.0900e-003</b>	<b>0.5320</b>	<b>0.0140</b>	<b>0.5460</b>	<b>0.1423</b>	<b>0.0129</b>	<b>0.1552</b>		<b>629.1721</b>	<b>629.1721</b>	<b>0.0209</b>			<b>629.6109</b>

### 3.5 Paving - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	0.8294	8.3378	8.7538	0.0133		0.4640	0.4640		0.4277	0.4277		1,277.8356	1,277.8356	0.4050			1,286.3397
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
<b>Total</b>	<b>0.8294</b>	<b>8.3378</b>	<b>8.7538</b>	<b>0.0133</b>		<b>0.4640</b>	<b>0.4640</b>		<b>0.4277</b>	<b>0.4277</b>		<b>1,277.8356</b>	<b>1,277.8356</b>	<b>0.4050</b>			<b>1,286.3397</b>

### 3.5 Paving - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0380	0.0473	0.5947	1.8400e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0300e-003	0.0396		132.1751	132.1751	6.0200e-003			132.3016
<b>Total</b>	<b>0.0380</b>	<b>0.0473</b>	<b>0.5947</b>	<b>1.8400e-003</b>	<b>0.1453</b>	<b>1.1100e-003</b>	<b>0.1464</b>	<b>0.0385</b>	<b>1.0300e-003</b>	<b>0.0396</b>		<b>132.1751</b>	<b>132.1751</b>	<b>6.0200e-003</b>			<b>132.3016</b>

#### 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	0.8294	8.3378	8.7538	0.0133		0.4640	0.4640		0.4277	0.4277	0.0000	1,277.8356	1,277.8356	0.4050			1,286.3397
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
<b>Total</b>	<b>0.8294</b>	<b>8.3378</b>	<b>8.7538</b>	<b>0.0133</b>		<b>0.4640</b>	<b>0.4640</b>		<b>0.4277</b>	<b>0.4277</b>	<b>0.0000</b>	<b>1,277.8356</b>	<b>1,277.8356</b>	<b>0.4050</b>			<b>1,286.3397</b>



### 3.5 Paving - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0380	0.0473	0.5947	1.8400e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0300e-003	0.0396		132.1751	132.1751	6.0200e-003			132.3016
<b>Total</b>	<b>0.0380</b>	<b>0.0473</b>	<b>0.5947</b>	<b>1.8400e-003</b>	<b>0.1453</b>	<b>1.1100e-003</b>	<b>0.1464</b>	<b>0.0385</b>	<b>1.0300e-003</b>	<b>0.0396</b>		<b>132.1751</b>	<b>132.1751</b>	<b>6.0200e-003</b>			<b>132.3016</b>

### 3.6 Coatings - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Archit. Coating	4.0637					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218			281.9057
<b>Total</b>	<b>4.3059</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>			<b>281.9057</b>

### 3.6 Coatings - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0234	0.0291	0.3660	1.1300e-003	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0244		81.3385	81.3385	3.7100e-003			81.4163
<b>Total</b>	<b>0.0234</b>	<b>0.0291</b>	<b>0.3660</b>	<b>1.1300e-003</b>	<b>0.0894</b>	<b>6.8000e-004</b>	<b>0.0901</b>	<b>0.0237</b>	<b>6.3000e-004</b>	<b>0.0244</b>		<b>81.3385</b>	<b>81.3385</b>	<b>3.7100e-003</b>			<b>81.4163</b>

#### 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	4.0637					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218			281.9057
<b>Total</b>	<b>4.3059</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>			<b>281.9057</b>

### 3.6 Coatings - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0234	0.0291	0.3660	1.1300e-003	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0244		81.3385	81.3385	3.7100e-003		81.4163
<b>Total</b>	<b>0.0234</b>	<b>0.0291</b>	<b>0.3660</b>	<b>1.1300e-003</b>	<b>0.0894</b>	<b>6.8000e-004</b>	<b>0.0901</b>	<b>0.0237</b>	<b>6.3000e-004</b>	<b>0.0244</b>		<b>81.3385</b>	<b>81.3385</b>	<b>3.7100e-003</b>		<b>81.4163</b>

### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1407	4.6755	22.0783	0.0976	6.2165	0.1332	6.3497	1.6623	0.1230	1.7852		6,967.1069	6,967.1069	0.1762		6,970.8066
Unmitigated	2.1407	4.6755	22.0783	0.0976	6.2165	0.1332	6.3497	1.6623	0.1230	1.7852		6,967.1069	6,967.1069	0.1762		6,970.8066

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	276.78	300.72	254.94	946,824	946,824
General Office Building	51.20	11.02	4.56	124,974	124,974
Hotel	65.36	65.52	47.60	149,961	149,961
Regional Shopping Center	485.22	564.66	285.21	1,012,206	1,012,206
Strip Mall	186.14	176.57	85.81	324,282	324,282
<b>Total</b>	<b>1,064.70</b>	<b>1,118.49</b>	<b>678.12</b>	<b>2,558,247</b>	<b>2,558,247</b>

### 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	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.474926	0.062601	0.188601	0.146937	0.045783	0.007301	0.017304	0.043806	0.002178	0.002600	0.003891	0.000533	0.003539

### 5.0 Energy Detail

#### 4.4 Fleet Mix

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	0.0183	0.1614	0.1009	1.0000e-003		0.0127	0.0127		0.0127	0.0127		200.0136	200.0136	3.8300e-003	3.6700e-003	201.2309
NaturalGas Unmitigated	0.0232	0.2040	0.1278	1.2600e-003		0.0160	0.0160		0.0160	0.0160		252.8504	252.8504	4.8500e-003	4.6400e-003	254.3892

### 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					
General Office Building	139.245	1.5000e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003		16.3818	16.3818	3.1000e-004	3.0000e-004	16.4815
Hotel	796.253	8.5900e-003	0.0781	0.0656	4.7000e-004		5.9300e-003	5.9300e-003		5.9300e-003	5.9300e-003		93.6768	93.6768	1.8000e-003	1.7200e-003	94.2469
Regional Shopping Center	52.6301	5.7000e-004	5.1600e-003	4.3300e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004		6.1918	6.1918	1.2000e-004	1.1000e-004	6.2295
Strip Mall	19.5616	2.1000e-004	1.9200e-003	1.6100e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		2.3014	2.3014	4.0000e-005	4.0000e-005	2.3154
Apartments Mid Rise	1141.54	0.0123	0.1052	0.0448	6.7000e-004		8.5100e-003	8.5100e-003		8.5100e-003	8.5100e-003		134.2986	134.2986	2.5700e-003	2.4600e-003	135.1159
<b>Total</b>		<b>0.0232</b>	<b>0.2040</b>	<b>0.1278</b>	<b>1.2600e-003</b>		<b>0.0160</b>	<b>0.0160</b>		<b>0.0160</b>	<b>0.0160</b>		<b>252.8504</b>	<b>252.8504</b>	<b>4.8400e-003</b>	<b>4.6300e-003</b>	<b>254.3892</b>

### 5.2 Energy by Land Use - NaturalGas

#### 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					
General Office Building	0.105676	1.1400e-003	0.0104	8.7000e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4325	12.4325	2.4000e-004	2.3000e-004	12.5081
Hotel	0.629492	6.7900e-003	0.0617	0.0518	3.7000e-004		4.6900e-003	4.6900e-003		4.6900e-003	4.6900e-003		74.0579	74.0579	1.4200e-003	1.3600e-003	74.5086
Regional Shopping Center	0.0432651	4.7000e-004	4.2400e-003	3.5600e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004		5.0900	5.0900	1.0000e-004	9.0000e-005	5.1210
Strip Mall	0.0160808	1.7000e-004	1.5800e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		1.8919	1.8919	4.0000e-005	3.0000e-005	1.9034
Apartments Mid Rise	0.905602	9.7700e-003	0.0835	0.0355	5.3000e-004		6.7500e-003	6.7500e-003		6.7500e-003	6.7500e-003		106.5414	106.5414	2.0400e-003	1.9500e-003	107.1898
<b>Total</b>		<b>0.0183</b>	<b>0.1614</b>	<b>0.1009</b>	<b>1.0000e-003</b>		<b>0.0127</b>	<b>0.0127</b>		<b>0.0127</b>	<b>0.0127</b>		<b>200.0136</b>	<b>200.0136</b>	<b>3.8400e-003</b>	<b>3.6600e-003</b>	<b>201.2308</b>

### 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	12.8613	0.3191	24.5667	0.0338		3.2275	3.2275		3.2270	3.2270	393.4106	762.2454	1,155.6559	1.1792	0.0267	1,188.6963
Unmitigated	12.8613	0.3191	24.5667	0.0338		3.2275	3.2275		3.2270	3.2270	393.4106	762.2454	1,155.6559	1.1792	0.0267	1,188.6963

## 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	0.2917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4606					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	11.0055	0.2792	21.1110	0.0336		3.2083	3.2083		3.2078	3.2078	393.4106	756.0000	1,149.4106	1.1732	0.0267	1,182.3259
Landscaping	0.1035	0.0399	3.4557	1.8000e-004		0.0192	0.0192		0.0192	0.0192		6.2454	6.2454	5.9600e-003		6.3704
<b>Total</b>	<b>12.8613</b>	<b>0.3191</b>	<b>24.5667</b>	<b>0.0338</b>		<b>3.2275</b>	<b>3.2275</b>		<b>3.2270</b>	<b>3.2270</b>	<b>393.4106</b>	<b>762.2454</b>	<b>1,155.6559</b>	<b>1.1792</b>	<b>0.0267</b>	<b>1,188.6963</b>

## 6.2 Area by SubCategory

### 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	0.2917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4606					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	11.0055	0.2792	21.1110	0.0336		3.2083	3.2083		3.2078	3.2078	393.4106	756.0000	1,149.4106	1.1732	0.0267	1,182.3259
Landscaping	0.1035	0.0399	3.4557	1.8000e-004		0.0192	0.0192		0.0192	0.0192		6.2454	6.2454	5.9600e-003		6.3704
<b>Total</b>	<b>12.8613</b>	<b>0.3191</b>	<b>24.5667</b>	<b>0.0338</b>		<b>3.2275</b>	<b>3.2275</b>		<b>3.2270</b>	<b>3.2270</b>	<b>393.4106</b>	<b>762.2454</b>	<b>1,155.6559</b>	<b>1.1792</b>	<b>0.0267</b>	<b>1,188.6963</b>

## 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
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## 10.0 Vegetation