

## **APPENDIX F**

### **ENERGY STUDY**

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August 27, 2019  
Project No: 18-05692

Andrew Metzger  
Circlepoint  
46 S 1<sup>st</sup> Street  
San Jose, California 95113  
Via email: a.metzger@circlepoint.com

**Subject: 1095 Rollins Road Apartment Project IS-MND, Energy Letter Report  
1095 Rollins Road, Burlingame, California, 94010**

Dear Ms. Zagazeta:

This letter report analyzes the potential energy impacts of the proposed 1095 Rollins Road Apartment Project (project) in Burlingame, California. Rincon Consultants, Inc. (Rincon) prepared this letter report under contract to Circlepoint for use by the City of Burlingame in support of the environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA). This analysis considers both temporary impacts that would result from project construction and long-term energy impacts associated with operation of the project.

## Project Location

The project site is a 1.08-acre property comprising two assessor's parcels, located at 1095 Rollins Road in Burlingame, California (Assessor Parcel Numbers 026-231-250 and 026-231-260). The project site currently contains a restaurant on the western portion of the site and elevated tennis courts located on top of a parking structure on the eastern portion of the site. The project site is bound by a gas station to the west, Rollins Road and U.S. 101 to the north, a City utility station to the east, and a multi-family residential complex (Northpark Apartments) to the south and east.

## Project Description

The project would include demolition of all existing structures on-site and construction of a six-story, 150-unit multi-family residential apartment building. Ten percent of units would be designated as affordable housing for moderate-income households. The building would also include a one-level subterranean garage with 192 parking spaces in traditional and stacked parking configurations. The building would include multiple roof decks with barbecues and fire pits, a programmed courtyard with bocce ball court, a fitness center, clubhouse, bicycle parking, and on-site storage. Access to the site would be provided via an entrance and exit along Rollins Road. See Attachment 1 for the project site plan.



## Background

### Electricity and Natural Gas

In 2018, California used 285,488 gigawatt-hours (GWh) of electricity, of which 31 percent were from renewable resources.<sup>1</sup> California also consumed approximately 12,638 million U.S. therms (MMthm) of natural gas in 2018. Electricity and natural gas for the project site would be provided by Pacific Gas and Electric (PG&E). Table 1 and Table 2 show PG&E's total electricity and natural gas consumption for its service area as well as consumption by sector. In 2018, PG&E provided approximately 27.9 percent of the total electricity and approximately 37.9 percent of the total natural gas usage in California.

**Table 1 Electricity Consumption in the PG&E Service Area in 2018**

| Agriculture and Water Pump | Commercial Building | Commercial Other | Industry | Mining and Construction | Residential | Streetlight | Total Usage |
|----------------------------|---------------------|------------------|----------|-------------------------|-------------|-------------|-------------|
| 5735.1                     | 29,650.0            | 4,195.1          | 10,344.7 | 1,567.3                 | 27,964.8    | 318.6       | 79,775.7    |

Notes: All usage expressed in GWh<sup>2</sup>

**Table 2 Natural Gas Consumption in PG&E Service Area in 2018**

| Agriculture and Water Pump | Commercial Building | Commercial Other | Industry | Mining and Construction | Residential | Total Usage |
|----------------------------|---------------------|------------------|----------|-------------------------|-------------|-------------|
| 37.2                       | 899.1               | 59.0             | 1,776.0  | 190.2                   | 1832.8      | 4,794.4     |

Notes: All usage expressed in MMthm<sup>3</sup>

### Petroleum

In 2018, approximately 28 percent of the state's energy consumption was used for transportation activities.<sup>4</sup> Californians presently consume over 19 billion gallons of motor vehicle fuels per year. Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030, a 20 to 22 percent reduction. This forecast decline is due to both increasing use of electric vehicles and improved fuel economy for new gasoline vehicles.<sup>5</sup>

<sup>1</sup> California Energy Commission (CEC). 2019. Total System Electric Generation. Available at: [https://www.energy.ca.gov/almanac/electricity\\_data/total\\_system\\_power.html](https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html) (accessed August 2019).

<sup>2</sup> California Energy Commission (CEC). 2018. Electricity Consumption by Entity. Available at: <https://ecdms.energy.ca.gov/elecbyutil.aspx> (accessed August 2019).

<sup>3</sup> California Energy Commission (CEC). 2018. Gas Consumption by Entity. Available at: <https://ecdms.energy.ca.gov/gasbyutil.aspx> (accessed August 2019).

<sup>4</sup> United States Energy Information Administration (EIA). 2019. Monthly Energy Review, July. Table 2.5, Transportation Sector Energy Consumption. Available at: <https://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf> (accessed August 2019).

<sup>5</sup> California Energy Commission (CEC). 2019. California Energy Almanac. Available at: <https://www.energy.ca.gov/almanac/> (accessed August 2019).



## Methodology

The project's construction and operational energy usage were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2 (see Attachment 2). CalEEMod uses project-specific information, including the project's land uses, square footages for different uses (e.g., mid-rise apartments), and location, to estimate a project's construction and operational emissions and energy consumption. Consumption factors were drawn from CalEEMod for project natural gas and electricity consumption. Energy demand for off-road construction equipment is based on anticipated equipment, usage hours, horsepower, load factors, and construction phase duration provided by the CalEEMod output, as well as Exhaust and Crankcase Emission Factors for Nonroad Compression Ignition Engines.<sup>6</sup>

Operational energy is currently required for the existing restaurant and tennis court on the project site. These existing uses were modelled using CalEEMod to consider the existing energy demand in the form of electricity and natural gas consumption to compare with future project consumption. Based on these models, estimated electricity consumed by existing uses is 0.4 GWh per year and natural gas consumed by the existing uses is 0.02 MMthms. However, in order to represent a highly conservative estimate of project energy consumption, calculated energy consumption estimates did not deduct existing energy use from the restaurant and tennis court currently on the project site.

Operational energy demand considers transportation-based fuel consumption as well as electricity and natural gas consumption associated with the project. Transportation fuel demand for operation of the project was estimated based on the annual vehicle miles travelled (VMT) generated after project buildout. Electricity and natural gas consumption were also based on CalEEMod outputs and compared to existing consumption in the PG&E service areas.

## Thresholds

### CEQA Thresholds

To determine whether a project would have a significant impact to energy, Appendix G of the *CEQA Guidelines* requires consideration of whether a project would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operations, or
2. Conflict with or obstruct a state of local plan for renewable energy or energy efficiency.

## Impact Analysis

**Threshold 1:** Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operations?

### Construction Energy Demand

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<sup>6</sup> United States Environmental Protection Agency (USEPA). 2018. Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b. July 2018. Available at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf>



Construction activity would use energy in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. The project would require demolition of existing structures; site preparation and grading, including hauling material off-site; pavement and asphalt installation; building construction; architectural coating; and landscaping and hardscaping.

The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod (Attachment 2). Table 3 summarizes the estimated construction energy consumption for the project. Diesel fuel consumption, including construction equipment operation, hauling trips, and vendor trips, would consume an estimated 91,965 gallons of fuel over the project construction period. Worker trips would consume an estimated 10,175 gallons of petroleum fuel during project construction. Refer to Table 3 for the overall estimated fuel consumption during construction.

**Table 3 Estimated Fuel Consumption during Construction**

| Fuel Type                                         | Gallons of Fuel | MMBtu <sup>4</sup> |
|---------------------------------------------------|-----------------|--------------------|
| Diesel Fuel (Construction Equipment) <sup>1</sup> | 23,644          | 3,014              |
| Diesel Fuel (Hauling & Vendor Trips) <sup>2</sup> | 68,321          | 8,708              |
| Other Petroleum Fuel (Worker Trips) <sup>3</sup>  | 10,175          | 1,117              |
| <b>Total</b>                                      | <b>102,140</b>  | <b>12,839</b>      |

<sup>1</sup> Fuel demand rate for construction equipment is derived from the total hours of operation, the equipment's horse power, the equipment's load factor, and the equipment's fuel usage per horse power per hour of operation, which are all taken from CalEEMod outputs (see Attachment 2), and from compression-ignition engine brake-specific fuel consumptions factors for engines between 0 to 100 horsepower and greater than 100 horsepower.<sup>7</sup> Fuel consumed for all construction equipment is assumed to be diesel fuel.

<sup>2</sup> Fuel demand rate for hauling and vendor trips (cut material imports) is derived from hauling and vendor trip number, hauling and vendor trip length, and hauling and vendor vehicle class from "Trips and VMT" Table contained in Section 3.0, *Construction Detail*, of the CalEEMod results (see Attachment 2). The fuel economy for hauling and vendor trip vehicles is derived from the United States Department of Transportation.<sup>8</sup> Fuel consumed for all hauling trucks is assumed to be diesel fuel.

<sup>3</sup> The fuel economy for worker trip vehicles is derived from DOT National Transportation Statistics (24 mpg).<sup>9</sup> Fuel consumed for all worker trips is assumed to be gasoline fuel.

<sup>4</sup> CarFG CA-GREET 2.0 fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for worker trips specified above. Low-sulfur Diesel CA-GREET 2.0 fuel specification of 127,464 Btu/gallon used to identify conversion rate for fuel energy consumption for construction equipment specified above.<sup>10</sup> Totals may not add up due to rounding.

The construction energy estimates represent a conservative estimate as the construction equipment used in each phase of construction was assumed to be operating every day of construction. Construction equipment would be maintained to all applicable standards as required, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. It is also reasonable to assume contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. Therefore, the proposed project would

<sup>7</sup> United States Environmental Protection Agency (USEPA). 2018. Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b. July 2018. Available at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100UXEN.pdf>.

<sup>8</sup> United States Department of Transportation (DOT), Bureau of Transportation Statistics. 2018. National Transportation Statistics. Available at: <https://www.bts.gov/topics/national-transportation-statistics> (accessed August 2019).

<sup>9</sup> United States Department of Transportation (DOT), Bureau of Transportation Statistics. 2018. National Transportation Statistics. Available at: <https://www.bts.gov/topics/national-transportation-statistics> (accessed August 2019).

<sup>10</sup> California Air Resources Board (CARB). 2015. California modified Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (CA-GREET) 2.0 Model. September 2015.



not involve the inefficient, wasteful, and unnecessary use of energy during construction, and the construction-phase impact related to energy consumption would be less than significant.

## Operational Energy Demand

Operation of the project would require energy use in the form of electricity, natural gas, and gasoline consumption. Natural gas and electricity would be used for heating and cooling systems, lighting, appliances, water use, and the overall operation of the project. Gasoline consumption would be attributed to vehicular travel from residents and guests traveling to and from the project site. The project's estimated number of average daily trips from CalEEMod is used to determine the energy consumption associated with fuel use from project operation. According to the CalEEMod calculations, the project would result in 690,152 annual vehicle miles travelled (VMT) (Attachment 2). Table 4 shows the estimated total annual fuel consumption of the project using the estimated VMT with the assumed vehicle fleet mix (Attachment 2).

**Table 4 Estimated Project Annual Transportation Energy Consumption**

| Vehicle Type <sup>1</sup> | Percent of Vehicle Trips <sup>2</sup> | Annual Vehicle Miles Traveled <sup>3</sup> | Average Fuel Economy (miles/gallon) <sup>4</sup> | Total Annual Fuel Consumption (gallons) | Total Fuel Consumption (MMBtu) <sup>5</sup> |
|---------------------------|---------------------------------------|--------------------------------------------|--------------------------------------------------|-----------------------------------------|---------------------------------------------|
| Passenger Cars            | 47.1                                  | 324,803                                    | 24.0                                             | 13,533                                  | 1,486                                       |
| Light/Medium Trucks       | 45.7                                  | 315,145                                    | 17.4                                             | 18,112                                  | 1,988                                       |
| Heavy Trucks/Other        | 6.4                                   | 43,883                                     | 7.4                                              | 5,930                                   | 756                                         |
| Motorcycles               | 0.9                                   | 6,321                                      | 43.9                                             | 144                                     | 16                                          |
| <b>Total</b>              | <b>100.0</b>                          | <b>690,152</b>                             | <b>—</b>                                         | <b>37,719</b>                           | <b>4,246</b>                                |

<sup>1</sup> Vehicle classes provided in CalEEMod do not correspond exactly to vehicle classes in DOT fuel consumption data, except for motorcycles. Therefore, it was assumed that passenger cars correspond to the light-duty, short-base vehicle class, light/medium trucks correspond to the light-duty long-base vehicle class, and heavy trucks/other correspond to the single unit, 2-axle 6-tire or more class.

<sup>2</sup> Percent of vehicle trips from Table 4.4 "Fleet Mix" in Air Quality and Greenhouse gas Emissions Study, CalEEMod output (see Attachment 2).

<sup>3</sup> Mitigated annual VMT found in Table 4.2 "Trip Summary Information" in Air Quality and Greenhouse Gas Emissions Study CalEEMod output (see Attachment 2).

<sup>4</sup> Average Fuel Economy<sup>11</sup>

<sup>5</sup> CaRFG fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for vehicle classes specified above.<sup>12</sup>

Notes: Totals may not add up due to rounding.

As shown in Table 4, the project would consume an estimated 37,719 gallons of fuel, or 4,246 MMBtu, each year for transportation uses from the operation.

The project's electricity demand would be served by PG&E, which provided 79,776 GWh of electricity in 2018. Operation of the project would consume approximately 0.8 GWh of electricity per year, which would be less than 0.01 percent of PG&E's current electricity demand (electricity use provided in the

<sup>11</sup> United States Department of Transportation (DOT), Bureau of Transportation Statistics. 2018. National Transportation Statistics. Available at: <https://www.bts.gov/topics/national-transportation-statistics> (accessed August 2019).

<sup>12</sup> California Air Resources Board (CARB). 2015. California modified Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (CA-GREET) 2.0 Model. September 2015.



CalEEMod output of Attachment 2). The project would include the use of nine mechanical parking garage stackers that would require additional electrical energy. Each stacker would require 0.96 kilowatts of energy and would operate for 30 seconds to lift cars in the proposed parking structure. According to the traffic study prepared for the project, approximately 816 trips would occur to and from the parking garage each day that would require stacking in the parking garage. In comparison to the overall operation of the project, the electricity use required to run the stackers would be minimal, and would not result in wasteful, inefficient, or unnecessary consumption of energy use. The project's natural gas demand would be serviced by PG&E, which provided approximately 4,795 MMthm per year in 2018. Estimated natural gas consumption for the project would be approximately 0.01 MMthm per year, which would be less than 0.01 percent of PG&E's current natural gas demand (natural gas use provided in the CalEEMod output of Attachment 2). Therefore, PG&E would have sufficient electricity and natural gas supplies for the project. It is important to note that calculated energy consumption estimates did not deduct existing energy use from the restaurant and tennis court currently on the project site and therefore represent a highly conservative estimate.

The project would be required to comply with all standards set in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the Energy Commission. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. The standards are updated every three years and each iteration is more energy efficient than the previous standards. For example, according to the CEC, residences built with the 2019 standards will use about seven percent less energy due to energy efficiency measures versus those built under the 2016 standards, or 53 percent less energy with rooftop solar, and nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.<sup>13</sup> Furthermore, the project would continue to reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by PG&E continues to increase to comply with state requirements through Senate Bill 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Operational impacts related to energy consumption would be less than significant.

In conclusion, energy demand associated with project construction would be temporary and typical of similar projects, and would not result in the wasteful, inefficient, or unnecessary consumption of energy. While project operation would involve the consumption of fuel, natural gas, and electricity, the project's energy usage would be in conformance with the latest version of California's Green Building Standards Code and the Building Energy Efficiency Standards. In addition, PG&E has sufficient supplies to serve the project and the project would include rooftop solar PV panels that would further off set energy consumption. Therefore, the project would have a less than significant impact.

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<sup>13</sup> California Energy Commission (CEC). 2018. 2019 Building Energy Efficiency Standards. March. Available at: [https://www.energy.ca.gov/title24/2019standards/documents/2018\\_Title\\_24\\_2019\\_Building\\_Standards\\_FAQ.pdf](https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf) (accessed August 2019).



|                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Threshold 2:</b> Would the project conflict with or obstruct a state of local plan for renewable energy or energy efficiency? |
|----------------------------------------------------------------------------------------------------------------------------------|

As mentioned above, SB 100 mandates 100 percent clean electricity for California by 2045. Because the project would be powered by the existing electricity grid, the project would eventually be powered by renewable energy mandated by SB 100 and would not conflict with this statewide plan. Additionally, the project would be subject to energy efficiency standards pursuant to CCR Title 24 requirements.

The Burlingame Climate Action Plan (CAP) contains emissions-reduction measures the City may implement, several of which are energy-related. The Burlingame CAP is a voluntary planning study undertaken by the City to quantify emissions through an inventory analysis and forecast and to generate possible measures the City could take in the future. The CAP was adopted by the City in June of 2009, and an updated Draft 2030 Climate Action Plan and amendment to the City's General Plan has been completed and is available for public review.<sup>14,15</sup> Although the updated CAP has not yet been adopted by the City, the 2030 CAP Update is intended to build on and replace the City's previous CAP. It also contains the City's new greenhouse gas (GHG) emissions reduction strategy, addresses the community's potential vulnerability to climate change impacts, and provides clear implementation and monitoring programs to direct climate action in Burlingame.

The City's existing CAP includes five major strategies to reduce emissions for Burlingame, one of which specifically identifies energy efficiency and green building as a strategy to meet emissions targets in the City. The project would be consistent with measures and actions from the City's CAP and General Plan. Those policies specifically pertaining to energy include General Plan Policy CC-1.9: *Green Building Practices and Standards*, Policy HP-2.7: *Residential Solar Power*, and Policy HP-2.8: *Energy Efficiency*. Policy CC-1.9, states that the City shall encourage new residential development to comply with the State's Tier 1 and Tier 2 voluntary energy efficiency provisions. The project would incorporate several green building features including installation of energy efficient LED light fixtures with daylight dimming, use occupancy, and automatic shut-off requirements, use of Energy Star-rated appliances in the proposed clubhouse and all apartment units, and future installation of PV solar panels on at least 15 percent of the roof area. This plan for installation of solar panels would also be consistent with Policy HP-2.7 which encourages new residences to utilize solar as an alternative energy system. The project would not interfere with the CAP or General Plan's energy performance and efficiency strategies and would not conflict with or obstruct the state plan for renewable energy. Impacts would be less than significant.

## Conclusions and Recommendations

Construction and operational energy impacts would be less than significant. Therefore, no measures are recommended.

Thank you for the opportunity to assist with this assignment. Please do not hesitate to contact us if you have questions about this report.

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<sup>14</sup> City of Burlingame. 2009. Climate Action Plan. June. Available at: [http://www.cecburlingame.com/wp-content/uploads/2015/02/climate\\_action\\_plan.pdf](http://www.cecburlingame.com/wp-content/uploads/2015/02/climate_action_plan.pdf) (accessed August 2019).

<sup>15</sup> City of Burlingame. 2019. Draft 2030 Climate Action Plan Update. April. Available at: [https://www.burlingame.org/document\\_center/Sustainability/Burlingame\\_CAP\\_20190412\\_low\\_res.pdf](https://www.burlingame.org/document_center/Sustainability/Burlingame_CAP_20190412_low_res.pdf) (accessed August 2019).



Sincerely,  
**Rincon Consultants, Inc.**

A handwritten signature in blue ink, appearing to read "Kari Zajac".

Kari Zajac, MESM  
Project Manager

A handwritten signature in blue ink, appearing to read "Abe Leider".

Abe Leider, AICP CEP  
Principal

### **Attachments**

- |              |                                              |
|--------------|----------------------------------------------|
| Attachment 1 | Project Site Plan                            |
| Attachment 2 | California Emissions Estimator Model Results |



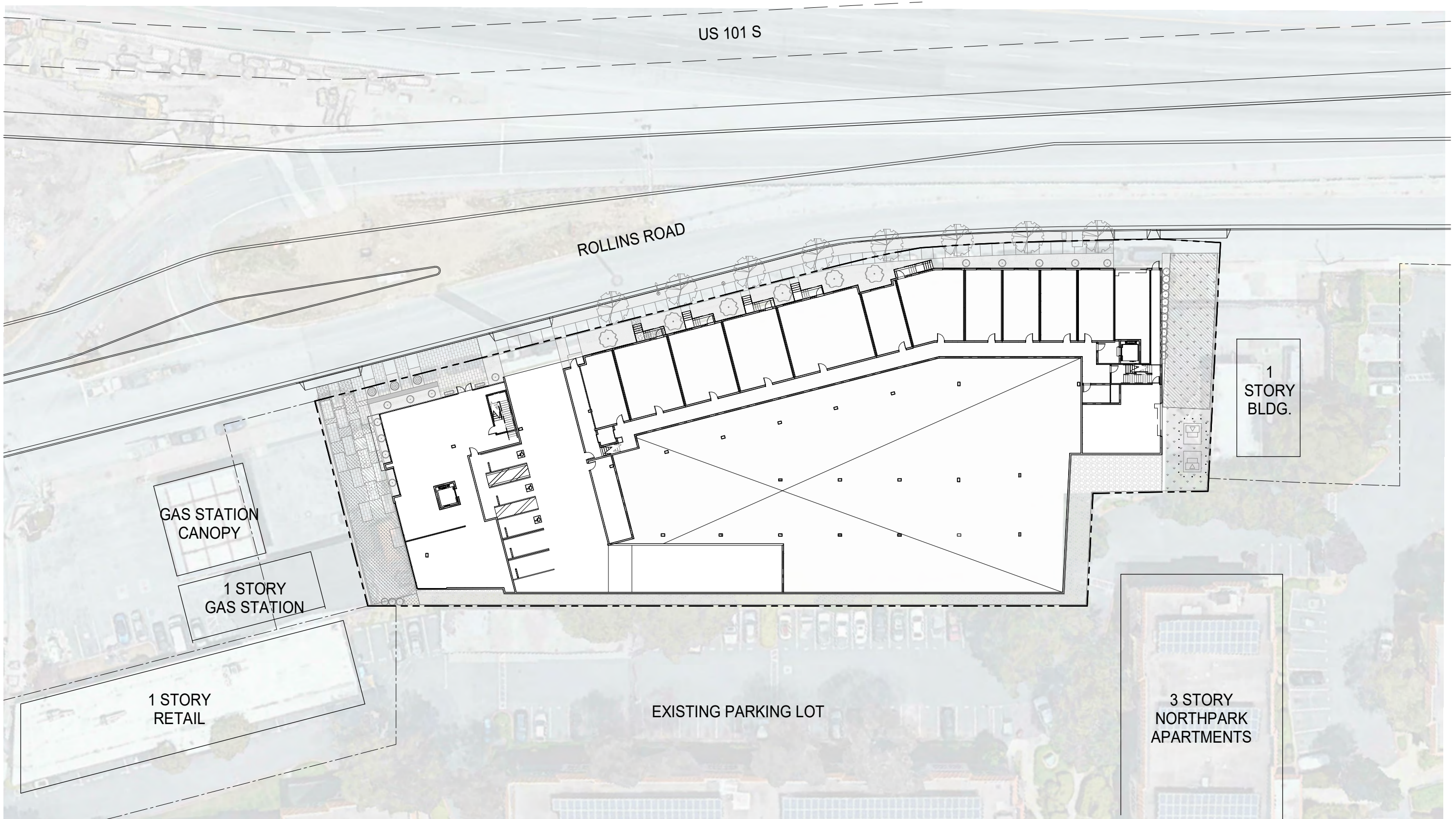
# Attachment 1

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Project Site Plan

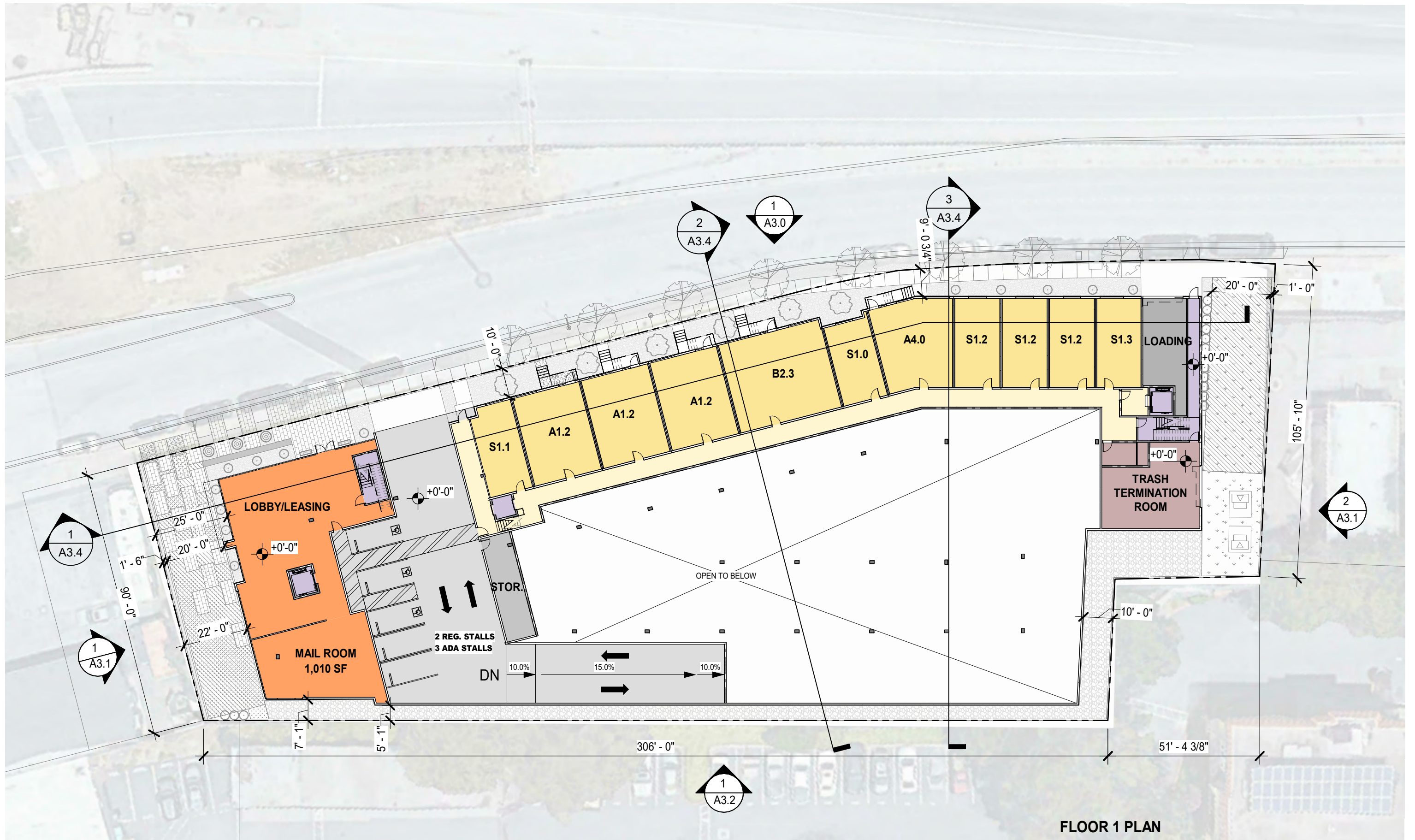
# 1095 ROLLINS ROAD, BURLINGAME PLANNING SUBMITTAL

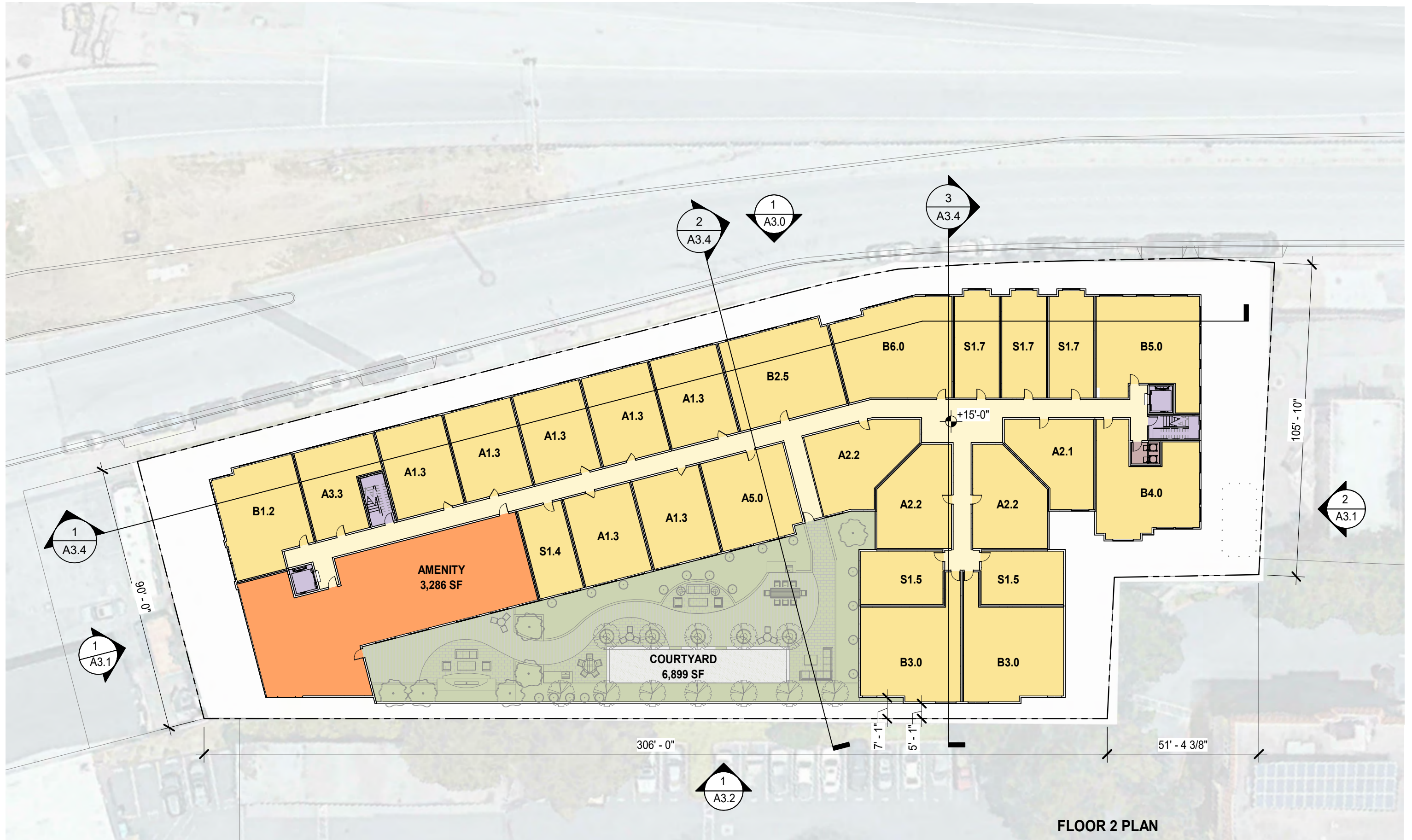


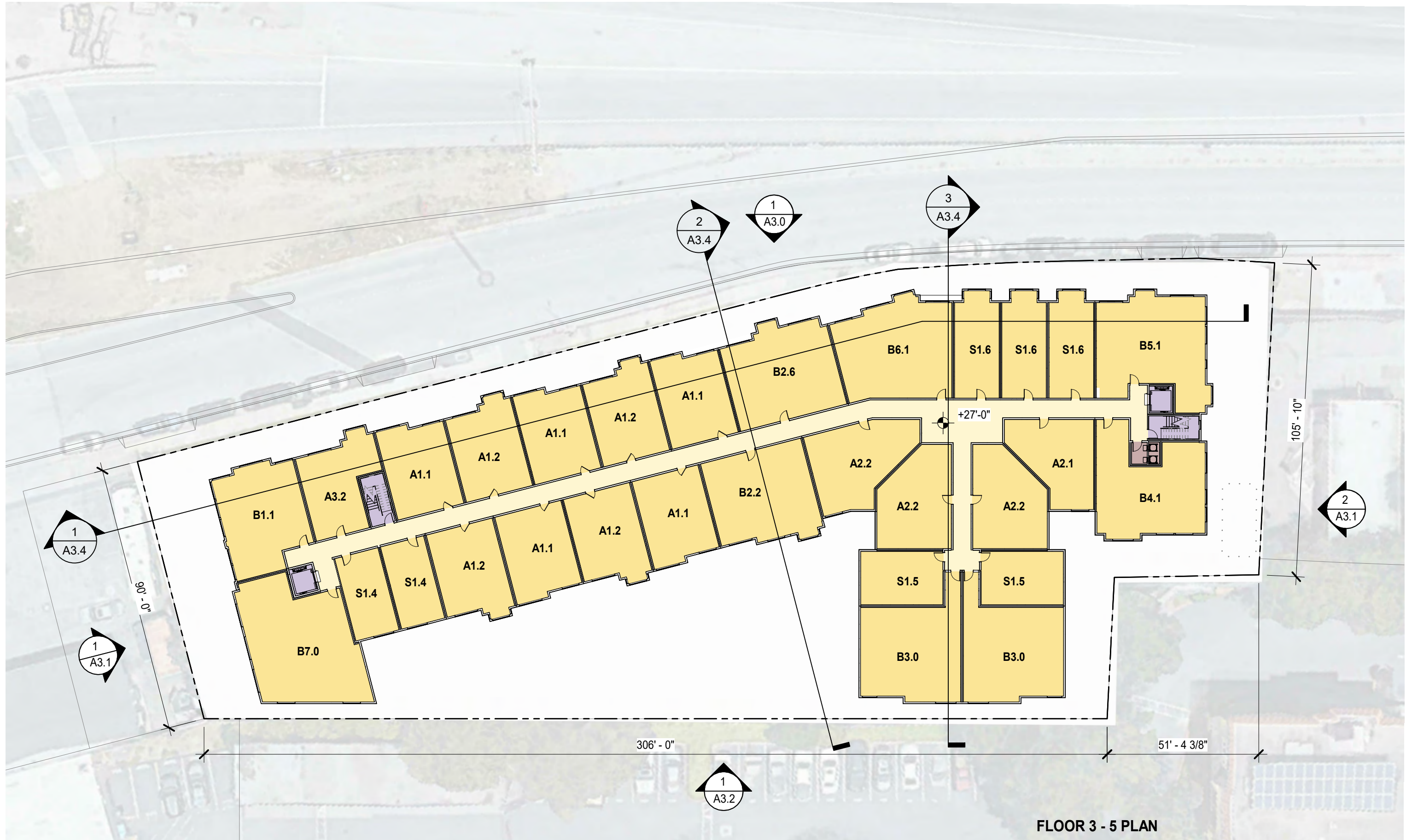


SITE PLAN



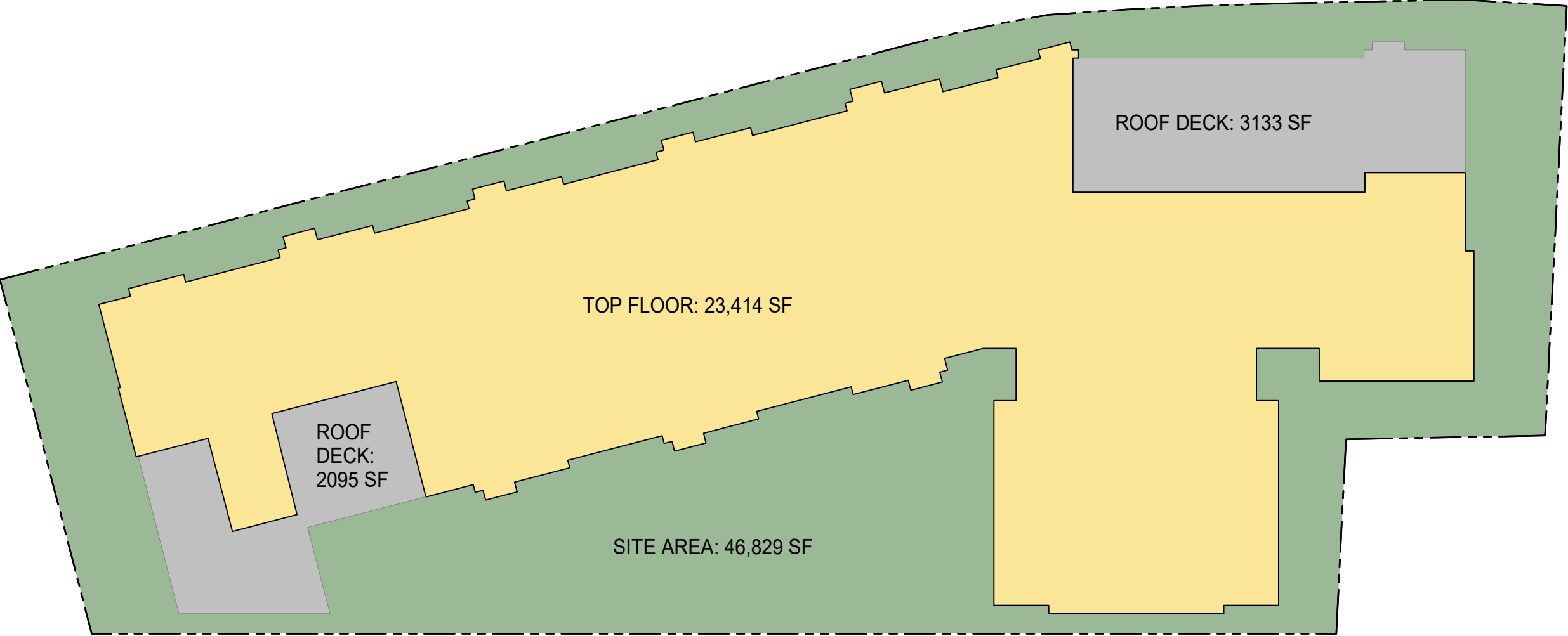






FLOOR 3 - 5 PLAN





| LOT COVERAGE                                                                        |           |
|-------------------------------------------------------------------------------------|-----------|
| SITE AREA =<br>Area within Property Line                                            | 46,829 SF |
| BUILDING FOOTPRINT =<br>Top Floor + Roof Decks<br>(23,414 SF + 3,133 SF + 2,095 SF) | 28,642 SF |
| 50% OF SITE AREA =<br>(46,827 SF/2)                                                 | 23,414 SF |
| TOP FLOOR =<br>Excludes Roof Deck                                                   | 23,414 SF |

LOT COVERAGE



## Attachment 2

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California Emissions Estimator Model Results

## 1095 Rollin Roads - San Mateo County, Annual

# 1095 Rollin Roads

## San Mateo County, Annual

### 1.0 Project Characteristics

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#### 1.1 Land Usage

| Land Uses                      | Size   | Metric        | Lot Acreage | Floor Surface Area | Population |
|--------------------------------|--------|---------------|-------------|--------------------|------------|
| Enclosed Parking with Elevator | 28.60  | 1000sqft      | 0.00        | 28,600.00          | 0          |
| -----                          | -----  | -----         | -----       | -----              | -----      |
| Apartments Mid Rise            | 150.00 | Dwelling Unit | 1.07        | 166,400.00         | 429        |

#### 1.2 Other Project Characteristics

|                             |                                |                             |       |                             |       |
|-----------------------------|--------------------------------|-----------------------------|-------|-----------------------------|-------|
| Urbanization                | Urban                          | Wind Speed (m/s)            | 2.2   | Precipitation Freq (Days)   | 70    |
| Climate Zone                | 5                              |                             |       | Operational Year            | 2023  |
| Utility Company             | Pacific Gas & Electric Company |                             |       |                             |       |
| CO2 Intensity<br>(lb/MW hr) | 641.35                         | CH4 Intensity<br>(lb/MW hr) | 0.029 | N2O Intensity<br>(lb/MW hr) | 0.006 |

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

## 1095 Rollin Roads - San Mateo County, Annual

## Project Characteristics -

Land Use - Source: planning submittal 9.14.18; building gross sf = 195,000 sf (-parking sf); site area = 46,829 sf (1.075 acres); although there are 192 parking spots 175 are stackers stalls, parking garage sf provided by applicant. See site plans for details.

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Provided by applicant; hours/day = avg hours per day

Off-road Equipment - Provided by applicant; hours/day = avg hours per day

Off-road Equipment - Provided by applicant; hours/day = avg hours per day

Off-road Equipment - Provided by applicant; hours/day = avg hours per day

Off-road Equipment - Provided by applicant; hours/day = avg hours per day

Off-road Equipment - Provided by applicant; hours/day = avg hours per day

Trips and VMT - Applicant provided number of worker round trips per work day

Demolition - Applicant provided.

Grading - Applicant provided: total cubic yards of soil exported = 23,500 cy

Architectural Coating - BAAQMD Regulation 8 Rule 3: Architectural coatings (applied to interior, exterior and "traffic marking coatings" for parking)

Woodstoves - Applicant provided = 1 natural gas fireplace, 1 natural gas fire pit, 4 natural gas BBQ (all included under # gas fireplaces)

Area Coating - BAAQMD Regulation 8 rule 3

Construction Off-road Equipment Mitigation - DPM mitigation

Mobile Land Use Mitigation - Applicant provided information for LUT-1 (150 dwellings/1.075 acres) and LUT-6;  
<https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/kml/jobcentermap.htm> for LUT-4 and google maps for LUT-5

Area Mitigation - Architectural coating already reduced per BAAQMD regulation 8 rule 3

Energy Mitigation - Applicant plans include Energy Star-rated appliances installed at amenities clubhouse and in all apartment units.

Water Mitigation - Applicant provided information indicates that all plumbing fixtures will meet CalGreen and/or EPA's WaterSense low flow fixture rates.

Landscaping with be drought tolerate and smart programmable controllers will be used for irrigation

Vehicle Trips - Applicant provided traffic study: avg dail trip rate = 5.44; avg trip length = 5.26 miles

## 1095 Rollin Roads - San Mateo County, Annual

[illegible]

## 1095 Rollin Roads - San Mateo County, Annual

| tblConstEquipMitigation | DPF                        | No Change | Level 3    |
|-------------------------|----------------------------|-----------|------------|
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 2.00       |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 8.00       |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 2.00       |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 1.00       |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 3.00       |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 1.00       |
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| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 1.00       |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00      | 1.00       |
| tblConstructionPhase    | NumDays                    | 20.00     | 46.00      |
| tblConstructionPhase    | NumDays                    | 2.00      | 6.00       |
| tblConstructionPhase    | NumDays                    | 4.00      | 51.00      |
| tblConstructionPhase    | NumDays                    | 200.00    | 326.00     |
| tblConstructionPhase    | NumDays                    | 10.00     | 196.00     |
| tblConstructionPhase    | NumDays                    | 10.00     | 21.00      |
| tblConstructionPhase    | PhaseEndDate               | 7/28/2020 | 9/2/2020   |
| tblConstructionPhase    | PhaseEndDate               | 7/30/2020 | 9/10/2020  |
| tblConstructionPhase    | PhaseEndDate               | 8/5/2020  | 11/20/2020 |
| tblConstructionPhase    | PhaseEndDate               | 5/12/2021 | 2/21/2022  |

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|                      |                            |            |            |
|----------------------|----------------------------|------------|------------|
| tblConstructionPhase | PhaseEndDate               | 6/9/2021   | 2/21/2022  |
| tblConstructionPhase | PhaseEndDate               | 5/26/2021  | 3/22/2022  |
| tblConstructionPhase | PhaseStartDate             | 7/29/2020  | 9/3/2020   |
| tblConstructionPhase | PhaseStartDate             | 7/31/2020  | 9/11/2020  |
| tblConstructionPhase | PhaseStartDate             | 8/6/2020   | 11/23/2020 |
| tblConstructionPhase | PhaseStartDate             | 5/27/2021  | 5/24/2021  |
| tblConstructionPhase | PhaseStartDate             | 5/13/2021  | 2/22/2022  |
| tblFireplaces        | NumberGas                  | 22.50      | 6.00       |
| tblFireplaces        | NumberNoFireplace          | 6.00       | 0.00       |
| tblFireplaces        | NumberWood                 | 25.50      | 0.00       |
| tblGrading           | MaterialExported           | 0.00       | 23,500.00  |
| tblLandUse           | LandUseSquareFeet          | 150,000.00 | 166,400.00 |
| tblLandUse           | LotAcreage                 | 0.66       | 0.00       |
| tblLandUse           | LotAcreage                 | 3.95       | 1.07       |
| tblOffRoadEquipment  | OffRoadEquipmentUnitAmount | 1.00       | 8.00       |
| tblOffRoadEquipment  | OffRoadEquipmentUnitAmount | 3.00       | 1.00       |
| tblOffRoadEquipment  | OffRoadEquipmentUnitAmount | 1.00       | 2.00       |
| tblOffRoadEquipment  | OffRoadEquipmentUnitAmount | 1.00       | 2.00       |
| tblOffRoadEquipment  | UsageHours                 | 8.00       | 0.70       |
| tblOffRoadEquipment  | UsageHours                 | 8.00       | 1.80       |
| tblOffRoadEquipment  | UsageHours                 | 8.00       | 2.70       |
| tblOffRoadEquipment  | UsageHours                 | 8.00       | 3.60       |
| tblOffRoadEquipment  | UsageHours                 | 7.00       | 2.40       |
| tblOffRoadEquipment  | UsageHours                 | 8.00       | 2.40       |
| tblOffRoadEquipment  | UsageHours                 | 7.00       | 3.60       |
| tblOffRoadEquipment  | UsageHours                 | 6.00       | 4.00       |
| tblOffRoadEquipment  | UsageHours                 | 8.00       | 1.70       |

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|                     |                    |        |       |
|---------------------|--------------------|--------|-------|
| tblOffRoadEquipment | UsageHours         | 6.00   | 4.10  |
| tblOffRoadEquipment | UsageHours         | 6.00   | 2.00  |
| tblOffRoadEquipment | UsageHours         | 7.00   | 0.80  |
| tblOffRoadEquipment | UsageHours         | 8.00   | 1.60  |
| tblOffRoadEquipment | UsageHours         | 6.00   | 0.00  |
| tblOffRoadEquipment | UsageHours         | 6.00   | 0.00  |
| tblOffRoadEquipment | UsageHours         | 8.00   | 0.00  |
| tblOffRoadEquipment | UsageHours         | 6.00   | 0.00  |
| tblOffRoadEquipment | UsageHours         | 8.00   | 0.00  |
| tblOffRoadEquipment | UsageHours         | 6.00   | 0.00  |
| tblOffRoadEquipment | UsageHours         | 6.00   | 0.00  |
| tblTripsAndVMT      | WorkerTripNumber   | 13.00  | 35.00 |
| tblTripsAndVMT      | WorkerTripNumber   | 10.00  | 35.00 |
| tblTripsAndVMT      | WorkerTripNumber   | 20.00  | 35.00 |
| tblTripsAndVMT      | WorkerTripNumber   | 120.00 | 35.00 |
| tblTripsAndVMT      | WorkerTripNumber   | 24.00  | 35.00 |
| tblTripsAndVMT      | WorkerTripNumber   | 13.00  | 35.00 |
| tblVehicleTrips     | HO_TL              | 5.70   | 5.26  |
| tblVehicleTrips     | HS_TL              | 4.80   | 5.26  |
| tblVehicleTrips     | HW_TL              | 10.80  | 5.26  |
| tblVehicleTrips     | ST_TR              | 6.39   | 5.44  |
| tblVehicleTrips     | SU_TR              | 5.86   | 5.44  |
| tblVehicleTrips     | WD_TR              | 6.65   | 5.44  |
| tblWoodstoves       | NumberCatalytic    | 3.00   | 0.00  |
| tblWoodstoves       | NumberNoncatalytic | 3.00   | 0.00  |

## 2.0 Emissions Summary

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**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    | 0.0594  | 0.8974 | 0.6263 | 2.1000e-003 | 0.0652        | 0.0208       | 0.0861     | 0.0175         | 0.0195        | 0.0370      | 0.0000   | 204.0144  | 204.0144  | 0.0317      | 0.0000 | 204.8059 |
| 2021    | 0.6917  | 1.1726 | 1.2777 | 2.8600e-003 | 0.0759        | 0.0539       | 0.1297     | 0.0206         | 0.0534        | 0.0740      | 0.0000   | 255.5617  | 255.5617  | 0.0200      | 0.0000 | 256.0607 |
| 2022    | 0.1508  | 0.2162 | 0.2686 | 5.7000e-004 | 0.0153        | 0.0101       | 0.0254     | 4.1200e-003    | 0.0100        | 0.0142      | 0.0000   | 50.3361   | 50.3361   | 4.0000e-003 | 0.0000 | 50.4362  |
| Maximum | 0.6917  | 1.1726 | 1.2777 | 2.8600e-003 | 0.0759        | 0.0539       | 0.1297     | 0.0206         | 0.0534        | 0.0740      | 0.0000   | 255.5617  | 255.5617  | 0.0317      | 0.0000 | 256.0607 |

**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    | 0.0594  | 0.8974 | 0.6263 | 2.1000e-003 | 0.0545        | 4.6700e-003  | 0.0592     | 0.0147         | 4.4100e-003   | 0.0191      | 0.0000   | 204.0144  | 204.0144  | 0.0317      | 0.0000 | 204.8058 |
| 2021    | 0.6917  | 1.1726 | 1.2777 | 2.8600e-003 | 0.0759        | 8.9400e-003  | 0.0848     | 0.0206         | 8.8100e-003   | 0.0294      | 0.0000   | 255.5615  | 255.5615  | 0.0200      | 0.0000 | 256.0606 |
| 2022    | 0.1508  | 0.2162 | 0.2686 | 5.7000e-004 | 0.0153        | 1.6500e-003  | 0.0169     | 4.1200e-003    | 1.6300e-003   | 5.7500e-003 | 0.0000   | 50.3361   | 50.3361   | 4.0000e-003 | 0.0000 | 50.4362  |
| Maximum | 0.6917  | 1.1726 | 1.2777 | 2.8600e-003 | 0.0759        | 8.9400e-003  | 0.0848     | 0.0206         | 8.8100e-003   | 0.0294      | 0.0000   | 255.5615  | 255.5615  | 0.0317      | 0.0000 | 256.0606 |

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|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 6.88          | 82.01        | 33.30      | 6.63           | 82.09         | 56.62       | 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       | 7-1-2020   | 9-30-2020  | 0.7272                                       | 0.7272                                     |
| 2       | 10-1-2020  | 12-31-2020 | 0.1893                                       | 0.1893                                     |
| 3       | 1-1-2021   | 3-31-2021  | 0.1359                                       | 0.1359                                     |
| 4       | 4-1-2021   | 6-30-2021  | 0.3586                                       | 0.3586                                     |
| 5       | 7-1-2021   | 9-30-2021  | 0.6769                                       | 0.6769                                     |
| 6       | 10-1-2021  | 12-31-2021 | 0.6795                                       | 0.6795                                     |
| 7       | 1-1-2022   | 3-31-2022  | 0.3787                                       | 0.3787                                     |
|         |            | Highest    | 0.7272                                       | 0.7272                                     |

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**2.2 Overall Operational****Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr          |                 |                 |               |               |                 |
| Area         | 0.7509        | 0.0135        | 1.1146        | 6.0000e-005        |               | 6.2200e-003   | 6.2200e-003   |                | 6.2200e-003   | 6.2200e-003   | 0.0000         | 2.5689          | 2.5689          | 1.7700e-003   | 1.0000e-005   | 2.6171          |
| Energy       | 7.0600e-003   | 0.0603        | 0.0257        | 3.9000e-004        |               | 4.8800e-003   | 4.8800e-003   |                | 4.8800e-003   | 4.8800e-003   | 0.0000         | 302.8727        | 302.8727        | 0.0119        | 3.4600e-003   | 304.2010        |
| Mobile       | 0.1608        | 0.4260        | 1.6333        | 5.3800e-003        | 0.5145        | 4.4500e-003   | 0.5189        | 0.1383         | 4.1400e-003   | 0.1424        | 0.0000         | 493.0410        | 493.0410        | 0.0183        | 0.0000        | 493.4978        |
| Waste        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 14.0064        | 0.0000          | 14.0064         | 0.8278        | 0.0000        | 34.7002         |
| Water        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 3.1006         | 21.6574         | 24.7580         | 0.3194        | 7.7200e-003   | 35.0451         |
| <b>Total</b> | <b>0.9188</b> | <b>0.4998</b> | <b>2.7735</b> | <b>5.8300e-003</b> | <b>0.5145</b> | <b>0.0156</b> | <b>0.5300</b> | <b>0.1383</b>  | <b>0.0152</b> | <b>0.1535</b> | <b>17.1069</b> | <b>820.1400</b> | <b>837.2469</b> | <b>1.1791</b> | <b>0.0112</b> | <b>870.0611</b> |

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**2.2 Overall Operational****Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr          |                 |                 |               |                    |                 |
| Area         | 0.7509        | 0.0135        | 1.1146        | 6.0000e-005        |               | 6.2200e-003   | 6.2200e-003   |                | 6.2200e-003   | 6.2200e-003   | 0.0000         | 2.5689          | 2.5689          | 1.7700e-003   | 1.0000e-005        | 2.6171          |
| Energy       | 7.0600e-003   | 0.0603        | 0.0257        | 3.9000e-004        |               | 4.8800e-003   | 4.8800e-003   |                | 4.8800e-003   | 4.8800e-003   | 0.0000         | 298.2404        | 298.2404        | 0.0117        | 3.4200e-003        | 299.5504        |
| Mobile       | 0.1342        | 0.3150        | 1.0778        | 2.8200e-003        | 0.2559        | 2.6100e-003   | 0.2585        | 0.0688         | 2.4200e-003   | 0.0712        | 0.0000         | 258.5372        | 258.5372        | 0.0108        | 0.0000             | 258.8063        |
| Waste        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 14.0064        | 0.0000          | 14.0064         | 0.8278        | 0.0000             | 34.7002         |
| Water        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 2.4804         | 18.1980         | 20.6784         | 0.2556        | 6.1900e-003        | 28.9115         |
| <b>Total</b> | <b>0.8922</b> | <b>0.3888</b> | <b>2.2180</b> | <b>3.2700e-003</b> | <b>0.2559</b> | <b>0.0137</b> | <b>0.2696</b> | <b>0.0688</b>  | <b>0.0135</b> | <b>0.0823</b> | <b>16.4868</b> | <b>577.5444</b> | <b>594.0312</b> | <b>1.1075</b> | <b>9.6200e-003</b> | <b>624.5854</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         |
|--------------------------|-------------|--------------|--------------|--------------|---------------|--------------|--------------|----------------|---------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|
| <b>Percent Reduction</b> | <b>2.90</b> | <b>22.21</b> | <b>20.03</b> | <b>43.91</b> | <b>50.26</b>  | <b>11.83</b> | <b>49.13</b> | <b>50.26</b>   | <b>11.29</b>  | <b>46.38</b> | <b>3.62</b> | <b>29.58</b> | <b>29.05</b> | <b>6.07</b> | <b>14.03</b> | <b>28.21</b> |

**3.0 Construction Detail****Construction Phase**

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| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 7/1/2020   | 9/2/2020   | 5             | 46       |                   |
| 2            | Site Preparation      | Site Preparation      | 9/3/2020   | 9/10/2020  | 5             | 6        |                   |
| 3            | Grading               | Grading               | 9/11/2020  | 11/20/2020 | 5             | 51       |                   |
| 4            | Building Construction | Building Construction | 11/23/2020 | 2/21/2022  | 5             | 326      |                   |
| 5            | Paving                | Paving                | 2/22/2022  | 3/22/2022  | 5             | 21       |                   |
| 6            | Architectural Coating | Architectural Coating | 5/24/2021  | 2/21/2022  | 5             | 196      |                   |

Acres of Grading (Site Preparation Phase): 1.35

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 336,960; Residential Outdoor: 112,320; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,716 (Architectural Coating – sqft)

OffRoad Equipment

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| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition            | Concrete/Industrial Saws  | 1      | 0.70        | 81          | 0.73        |
| Demolition            | Excavators                | 2      | 6.00        | 158         | 0.38        |
| Demolition            | Rubber Tired Dozers       | 1      | 1.80        | 247         | 0.40        |
| Demolition            | Tractors/Loaders/Backhoes | 1      | 2.70        | 97          | 0.37        |
| Site Preparation      | Graders                   | 1      | 3.60        | 187         | 0.41        |
| Site Preparation      | Rubber Tired Dozers       | 1      | 2.40        | 247         | 0.40        |
| Site Preparation      | Tractors/Loaders/Backhoes | 2      | 2.40        | 97          | 0.37        |
| Grading               | Bore/Drill Rigs           | 1      | 1.20        | 221         | 0.50        |
| Grading               | Bore/Drill Rigs           | 1      | 0.60        | 221         | 0.50        |
| Grading               | Excavators                | 1      | 5.40        | 158         | 0.38        |
| Grading               | Generator Sets            | 1      | 4.00        | 84          | 0.74        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 3.60        | 97          | 0.37        |
| Building Construction | Forklifts                 | 1      | 4.00        | 89          | 0.20        |
| Building Construction | Welders                   | 3      | 1.70        | 46          | 0.45        |
| Architectural Coating | Aerial Lifts              | 2      | 0.40        | 63          | 0.31        |
| Architectural Coating | Air Compressors           | 8      | 4.10        | 78          | 0.48        |
| Paving                | Pavers                    | 1      | 2.00        | 130         | 0.42        |
| Paving                | Rollers                   | 1      | 0.80        | 80          | 0.38        |
| Paving                | Tractors/Loaders/Backhoes | 1      | 1.60        | 97          | 0.37        |
| Paving                | Cement and Mortar Mixers  | 1      | 0.00        | 9           | 0.56        |
| Building Construction | Cranes                    | 1      | 0.00        | 231         | 0.29        |
| Building Construction | Generator Sets            | 1      | 0.00        | 84          | 0.74        |
| Grading               | Graders                   | 1      | 0.00        | 187         | 0.41        |
| Paving                | Paving Equipment          | 1      | 0.00        | 132         | 0.36        |
| Grading               | Rubber Tired Dozers       | 1      | 0.00        | 247         | 0.40        |
| Building Construction | Tractors/Loaders/Backhoes | 1      | 0.00        | 97          | 0.37        |

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**Trips and VMT**

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 5                       | 35.00              | 0.00               | 112.00              | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 4                       | 35.00              | 0.00               | 2,938.00            | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 35.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 7                       | 35.00              | 21.00              | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 10                      | 35.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 5                       | 35.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

Use DPF for Construction Equipment

Water Exposed Area

**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      | tons/yr       |               |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0121        | 0.0000             | 0.0121        | 1.8300e-003        | 0.0000             | 1.8300e-003        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0165        | 0.1649        | 0.1592        | 2.6000e-004        |               | 8.3400e-003        | 8.3400e-003   |                    | 7.7000e-003        | 7.7000e-003        | 0.0000        | 22.7368        | 22.7368        | 7.0700e-003        | 0.0000        | 22.9136        |
| <b>Total</b>  | <b>0.0165</b> | <b>0.1649</b> | <b>0.1592</b> | <b>2.6000e-004</b> | <b>0.0121</b> | <b>8.3400e-003</b> | <b>0.0204</b> | <b>1.8300e-003</b> | <b>7.7000e-003</b> | <b>9.5300e-003</b> | <b>0.0000</b> | <b>22.7368</b> | <b>22.7368</b> | <b>7.0700e-003</b> | <b>0.0000</b> | <b>22.9136</b> |

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**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     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 5.0000e-004        | 0.0181        | 7.5300e-003   | 5.0000e-005        | 9.4000e-004        | 6.0000e-005        | 9.9000e-004        | 2.6000e-004        | 5.0000e-005        | 3.1000e-004        | 0.0000        | 4.6778        | 4.6778        | 5.8000e-004        | 0.0000        | 4.6924        |
| 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       | 2.2000e-003        | 1.4900e-003   | 0.0157        | 6.0000e-005        | 6.3400e-003        | 4.0000e-005        | 6.3800e-003        | 1.6900e-003        | 4.0000e-005        | 1.7200e-003        | 0.0000        | 5.2770        | 5.2770        | 1.0000e-004        | 0.0000        | 5.2796        |
| <b>Total</b> | <b>2.7000e-003</b> | <b>0.0196</b> | <b>0.0232</b> | <b>1.1000e-004</b> | <b>7.2800e-003</b> | <b>1.0000e-004</b> | <b>7.3700e-003</b> | <b>1.9500e-003</b> | <b>9.0000e-005</b> | <b>2.0300e-003</b> | <b>0.0000</b> | <b>9.9548</b> | <b>9.9548</b> | <b>6.8000e-004</b> | <b>0.0000</b> | <b>9.9719</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      | tons/yr       |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 5.4300e-003        | 0.0000             | 5.4300e-003        | 8.2000e-004        | 0.0000             | 8.2000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0165        | 0.1649        | 0.1592        | 2.6000e-004        |                    | 1.2500e-003        | 1.2500e-003        |                    | 1.1600e-003        | 1.1600e-003        | 0.0000        | 22.7368        | 22.7368        | 7.0700e-003        | 0.0000        | 22.9136        |
| <b>Total</b>  | <b>0.0165</b> | <b>0.1649</b> | <b>0.1592</b> | <b>2.6000e-004</b> | <b>5.4300e-003</b> | <b>1.2500e-003</b> | <b>6.6800e-003</b> | <b>8.2000e-004</b> | <b>1.1600e-003</b> | <b>1.9800e-003</b> | <b>0.0000</b> | <b>22.7368</b> | <b>22.7368</b> | <b>7.0700e-003</b> | <b>0.0000</b> | <b>22.9136</b> |

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**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     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 5.0000e-004        | 0.0181        | 7.5300e-003   | 5.0000e-005        | 9.4000e-004        | 6.0000e-005        | 9.9000e-004        | 2.6000e-004        | 5.0000e-005        | 3.1000e-004        | 0.0000        | 4.6778        | 4.6778        | 5.8000e-004        | 0.0000        | 4.6924        |
| 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       | 2.2000e-003        | 1.4900e-003   | 0.0157        | 6.0000e-005        | 6.3400e-003        | 4.0000e-005        | 6.3800e-003        | 1.6900e-003        | 4.0000e-005        | 1.7200e-003        | 0.0000        | 5.2770        | 5.2770        | 1.0000e-004        | 0.0000        | 5.2796        |
| <b>Total</b> | <b>2.7000e-003</b> | <b>0.0196</b> | <b>0.0232</b> | <b>1.1000e-004</b> | <b>7.2800e-003</b> | <b>1.0000e-004</b> | <b>7.3700e-003</b> | <b>1.9500e-003</b> | <b>9.0000e-005</b> | <b>2.0300e-003</b> | <b>0.0000</b> | <b>9.9548</b> | <b>9.9548</b> | <b>6.8000e-004</b> | <b>0.0000</b> | <b>9.9719</b> |

**3.3 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 |                    |               |               |                    | 7.4600e-003        | 0.0000             | 7.4600e-003        | 3.2600e-003        | 0.0000             | 3.2600e-003        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.9900e-003        | 0.0225        | 0.0103        | 2.0000e-005        |                    | 1.0100e-003        | 1.0100e-003        |                    | 9.3000e-004        | 9.3000e-004        | 0.0000        | 1.9538        | 1.9538        | 6.3000e-004        | 0.0000        | 1.9696        |
| <b>Total</b>  | <b>1.9900e-003</b> | <b>0.0225</b> | <b>0.0103</b> | <b>2.0000e-005</b> | <b>7.4600e-003</b> | <b>1.0100e-003</b> | <b>8.4700e-003</b> | <b>3.2600e-003</b> | <b>9.3000e-004</b> | <b>4.1900e-003</b> | <b>0.0000</b> | <b>1.9538</b> | <b>1.9538</b> | <b>6.3000e-004</b> | <b>0.0000</b> | <b>1.9696</b> |

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**3.3 Site Preparation - 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     | tons/yr       |               |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0130        | 0.4741        | 0.1976        | 1.1900e-003        | 0.0246        | 1.4700e-003        | 0.0261        | 6.7500e-003        | 1.4100e-003        | 8.1600e-003        | 0.0000        | 122.7076        | 122.7076        | 0.0153        | 0.0000        | 123.0905        |
| 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       | 2.9000e-004   | 1.9000e-004   | 2.0400e-003   | 1.0000e-005        | 8.3000e-004   | 1.0000e-005        | 8.3000e-004   | 2.2000e-004        | 0.0000             | 2.2000e-004        | 0.0000        | 0.6883          | 0.6883          | 1.0000e-005   | 0.0000        | 0.6886          |
| <b>Total</b> | <b>0.0133</b> | <b>0.4743</b> | <b>0.1997</b> | <b>1.2000e-003</b> | <b>0.0254</b> | <b>1.4800e-003</b> | <b>0.0269</b> | <b>6.9700e-003</b> | <b>1.4100e-003</b> | <b>8.3800e-003</b> | <b>0.0000</b> | <b>123.3960</b> | <b>123.3960</b> | <b>0.0153</b> | <b>0.0000</b> | <b>123.7792</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      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 3.3600e-003        | 0.0000             | 3.3600e-003        | 1.4700e-003        | 0.0000             | 1.4700e-003        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.9900e-003        | 0.0225        | 0.0103        | 2.0000e-005        |                    | 1.5000e-004        | 1.5000e-004        |                    | 1.4000e-004        | 1.4000e-004        | 0.0000        | 1.9538        | 1.9538        | 6.3000e-004        | 0.0000        | 1.9696        |
| <b>Total</b>  | <b>1.9900e-003</b> | <b>0.0225</b> | <b>0.0103</b> | <b>2.0000e-005</b> | <b>3.3600e-003</b> | <b>1.5000e-004</b> | <b>3.5100e-003</b> | <b>1.4700e-003</b> | <b>1.4000e-004</b> | <b>1.6100e-003</b> | <b>0.0000</b> | <b>1.9538</b> | <b>1.9538</b> | <b>6.3000e-004</b> | <b>0.0000</b> | <b>1.9696</b> |

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**3.3 Site Preparation - 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     | tons/yr       |               |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                 |                 |               |               |                 |
| Hauling      | 0.0130        | 0.4741        | 0.1976        | 1.1900e-003        | 0.0246        | 1.4700e-003        | 0.0261        | 6.7500e-003        | 1.4100e-003        | 8.1600e-003        | 0.0000        | 122.7076        | 122.7076        | 0.0153        | 0.0000        | 123.0905        |
| 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       | 2.9000e-004   | 1.9000e-004   | 2.0400e-003   | 1.0000e-005        | 8.3000e-004   | 1.0000e-005        | 8.3000e-004   | 2.2000e-004        | 0.0000             | 2.2000e-004        | 0.0000        | 0.6883          | 0.6883          | 1.0000e-005   | 0.0000        | 0.6886          |
| <b>Total</b> | <b>0.0133</b> | <b>0.4743</b> | <b>0.1997</b> | <b>1.2000e-003</b> | <b>0.0254</b> | <b>1.4800e-003</b> | <b>0.0269</b> | <b>6.9700e-003</b> | <b>1.4100e-003</b> | <b>8.3800e-003</b> | <b>0.0000</b> | <b>123.3960</b> | <b>123.3960</b> | <b>0.0153</b> | <b>0.0000</b> | <b>123.7792</b> |

**3.4 Grading - 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         |
| Off-Road      | 0.0157        | 0.1544        | 0.1678        | 3.0000e-004        |               | 8.1500e-003        | 8.1500e-003        |                | 7.7000e-003        | 7.7000e-003        | 0.0000        | 26.0132        | 26.0132        | 6.4900e-003        | 0.0000        | 26.1754        |
| <b>Total</b>  | <b>0.0157</b> | <b>0.1544</b> | <b>0.1678</b> | <b>3.0000e-004</b> | <b>0.0000</b> | <b>8.1500e-003</b> | <b>8.1500e-003</b> | <b>0.0000</b>  | <b>7.7000e-003</b> | <b>7.7000e-003</b> | <b>0.0000</b> | <b>26.0132</b> | <b>26.0132</b> | <b>6.4900e-003</b> | <b>0.0000</b> | <b>26.1754</b> |

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**3.4 Grading - 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     | 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       | 2.4300e-003        | 1.6500e-003        | 0.0174        | 6.0000e-005        | 7.0300e-003        | 4.0000e-005        | 7.0700e-003        | 1.8700e-003        | 4.0000e-005        | 1.9100e-003        | 0.0000        | 5.8506        | 5.8506        | 1.1000e-004        | 0.0000        | 5.8535        |
| <b>Total</b> | <b>2.4300e-003</b> | <b>1.6500e-003</b> | <b>0.0174</b> | <b>6.0000e-005</b> | <b>7.0300e-003</b> | <b>4.0000e-005</b> | <b>7.0700e-003</b> | <b>1.8700e-003</b> | <b>4.0000e-005</b> | <b>1.9100e-003</b> | <b>0.0000</b> | <b>5.8506</b> | <b>5.8506</b> | <b>1.1000e-004</b> | <b>0.0000</b> | <b>5.8535</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      | 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         |
| Off-Road      | 0.0157        | 0.1544        | 0.1678        | 3.0000e-004        |               | 1.2200e-003        | 1.2200e-003        |                | 1.1500e-003        | 1.1500e-003        | 0.0000        | 26.0132        | 26.0132        | 6.4900e-003        | 0.0000        | 26.1754        |
| <b>Total</b>  | <b>0.0157</b> | <b>0.1544</b> | <b>0.1678</b> | <b>3.0000e-004</b> | <b>0.0000</b> | <b>1.2200e-003</b> | <b>1.2200e-003</b> | <b>0.0000</b>  | <b>1.1500e-003</b> | <b>1.1500e-003</b> | <b>0.0000</b> | <b>26.0132</b> | <b>26.0132</b> | <b>6.4900e-003</b> | <b>0.0000</b> | <b>26.1754</b> |

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**3.4 Grading - 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     | 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       | 2.4300e-003        | 1.6500e-003        | 0.0174        | 6.0000e-005        | 7.0300e-003        | 4.0000e-005        | 7.0700e-003        | 1.8700e-003        | 4.0000e-005        | 1.9100e-003        | 0.0000        | 5.8506        | 5.8506        | 1.1000e-004        | 0.0000        | 5.8535        |
| <b>Total</b> | <b>2.4300e-003</b> | <b>1.6500e-003</b> | <b>0.0174</b> | <b>6.0000e-005</b> | <b>7.0300e-003</b> | <b>4.0000e-005</b> | <b>7.0700e-003</b> | <b>1.8700e-003</b> | <b>4.0000e-005</b> | <b>1.9100e-003</b> | <b>0.0000</b> | <b>5.8506</b> | <b>5.8506</b> | <b>1.1000e-004</b> | <b>0.0000</b> | <b>5.8535</b> |

**3.5 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     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 4.2100e-003        | 0.0239        | 0.0249        | 3.0000e-005        |               | 1.5000e-003        | 1.5000e-003        |                | 1.4500e-003        | 1.4500e-003        | 0.0000        | 2.7135        | 2.7135        | 5.7000e-004        | 0.0000        | 2.7278        |
| <b>Total</b> | <b>4.2100e-003</b> | <b>0.0239</b> | <b>0.0249</b> | <b>3.0000e-005</b> |               | <b>1.5000e-003</b> | <b>1.5000e-003</b> |                | <b>1.4500e-003</b> | <b>1.4500e-003</b> | <b>0.0000</b> | <b>2.7135</b> | <b>2.7135</b> | <b>5.7000e-004</b> | <b>0.0000</b> | <b>2.7278</b> |

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**3.5 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     | 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       | 1.1800e-003        | 0.0353        | 0.0141        | 8.0000e-005        | 1.9800e-003        | 1.8000e-004        | 2.1600e-003        | 5.7000e-004        | 1.7000e-004        | 7.4000e-004        | 0.0000        | 8.0691         | 8.0691         | 7.0000e-004        | 0.0000        | 8.0866         |
| Worker       | 1.3800e-003        | 9.4000e-004   | 9.8800e-003   | 4.0000e-005        | 4.0000e-003        | 3.0000e-005        | 4.0200e-003        | 1.0600e-003        | 2.0000e-005        | 1.0900e-003        | 0.0000        | 3.3268         | 3.3268         | 6.0000e-005        | 0.0000        | 3.3284         |
| <b>Total</b> | <b>2.5600e-003</b> | <b>0.0363</b> | <b>0.0239</b> | <b>1.2000e-004</b> | <b>5.9800e-003</b> | <b>2.1000e-004</b> | <b>6.1800e-003</b> | <b>1.6300e-003</b> | <b>1.9000e-004</b> | <b>1.8300e-003</b> | <b>0.0000</b> | <b>11.3959</b> | <b>11.3959</b> | <b>7.6000e-004</b> | <b>0.0000</b> | <b>11.4150</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     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 4.2100e-003        | 0.0239        | 0.0249        | 3.0000e-005        |               | 2.3000e-004        | 2.3000e-004        |                | 2.2000e-004        | 2.2000e-004        | 0.0000        | 2.7135        | 2.7135        | 5.7000e-004        | 0.0000        | 2.7278        |
| <b>Total</b> | <b>4.2100e-003</b> | <b>0.0239</b> | <b>0.0249</b> | <b>3.0000e-005</b> |               | <b>2.3000e-004</b> | <b>2.3000e-004</b> |                | <b>2.2000e-004</b> | <b>2.2000e-004</b> | <b>0.0000</b> | <b>2.7135</b> | <b>2.7135</b> | <b>5.7000e-004</b> | <b>0.0000</b> | <b>2.7278</b> |

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**3.5 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     | 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       | 1.1800e-003        | 0.0353        | 0.0141        | 8.0000e-005        | 1.9800e-003        | 1.8000e-004        | 2.1600e-003        | 5.7000e-004        | 1.7000e-004        | 7.4000e-004        | 0.0000        | 8.0691         | 8.0691         | 7.0000e-004        | 0.0000        | 8.0866         |
| Worker       | 1.3800e-003        | 9.4000e-004   | 9.8800e-003   | 4.0000e-005        | 4.0000e-003        | 3.0000e-005        | 4.0200e-003        | 1.0600e-003        | 2.0000e-005        | 1.0900e-003        | 0.0000        | 3.3268         | 3.3268         | 6.0000e-005        | 0.0000        | 3.3284         |
| <b>Total</b> | <b>2.5600e-003</b> | <b>0.0363</b> | <b>0.0239</b> | <b>1.2000e-004</b> | <b>5.9800e-003</b> | <b>2.1000e-004</b> | <b>6.1800e-003</b> | <b>1.6300e-003</b> | <b>1.9000e-004</b> | <b>1.8300e-003</b> | <b>0.0000</b> | <b>11.3959</b> | <b>11.3959</b> | <b>7.6000e-004</b> | <b>0.0000</b> | <b>11.4150</b> |

**3.5 Building Construction - 2021****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Off-Road     | 0.0336        | 0.2025        | 0.2192        | 3.1000e-004        |               | 0.0116        | 0.0116        |                | 0.0112        | 0.0112        | 0.0000        | 24.4213        | 24.4213        | 4.8700e-003        | 0.0000        | 24.5431        |
| <b>Total</b> | <b>0.0336</b> | <b>0.2025</b> | <b>0.2192</b> | <b>3.1000e-004</b> |               | <b>0.0116</b> | <b>0.0116</b> |                | <b>0.0112</b> | <b>0.0112</b> | <b>0.0000</b> | <b>24.4213</b> | <b>24.4213</b> | <b>4.8700e-003</b> | <b>0.0000</b> | <b>24.5431</b> |

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**3.5 Building Construction - 2021****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       | 8.7500e-003   | 0.2854        | 0.1225        | 7.2000e-004        | 0.0179        | 6.5000e-004        | 0.0185        | 5.1700e-003    | 6.3000e-004        | 5.7900e-003   | 0.0000        | 71.7198         | 71.7198         | 6.2000e-003        | 0.0000        | 71.8747         |
| Worker       | 0.0116        | 7.5700e-003   | 0.0821        | 3.2000e-004        | 0.0360        | 2.2000e-004        | 0.0362        | 9.5700e-003    | 2.0000e-004        | 9.7700e-003   | 0.0000        | 28.8762         | 28.8762         | 5.2000e-004        | 0.0000        | 28.8893         |
| <b>Total</b> | <b>0.0204</b> | <b>0.2930</b> | <b>0.2046</b> | <b>1.0400e-003</b> | <b>0.0538</b> | <b>8.7000e-004</b> | <b>0.0547</b> | <b>0.0147</b>  | <b>8.3000e-004</b> | <b>0.0156</b> | <b>0.0000</b> | <b>100.5960</b> | <b>100.5960</b> | <b>6.7200e-003</b> | <b>0.0000</b> | <b>100.7641</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     | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |               |                |
| Off-Road     | 0.0336        | 0.2025        | 0.2192        | 3.1000e-004        |               | 1.7400e-003        | 1.7400e-003        |                | 1.6800e-003        | 1.6800e-003        | 0.0000        | 24.4213        | 24.4213        | 4.8700e-003        | 0.0000        | 24.5431        |
| <b>Total</b> | <b>0.0336</b> | <b>0.2025</b> | <b>0.2192</b> | <b>3.1000e-004</b> |               | <b>1.7400e-003</b> | <b>1.7400e-003</b> |                | <b>1.6800e-003</b> | <b>1.6800e-003</b> | <b>0.0000</b> | <b>24.4213</b> | <b>24.4213</b> | <b>4.8700e-003</b> | <b>0.0000</b> | <b>24.5431</b> |

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**3.5 Building Construction - 2021****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       | 8.7500e-003   | 0.2854        | 0.1225        | 7.2000e-004        | 0.0179        | 6.5000e-004        | 0.0185        | 5.1700e-003    | 6.3000e-004        | 5.7900e-003   | 0.0000        | 71.7198         | 71.7198         | 6.2000e-003        | 0.0000        | 71.8747         |
| Worker       | 0.0116        | 7.5700e-003   | 0.0821        | 3.2000e-004        | 0.0360        | 2.2000e-004        | 0.0362        | 9.5700e-003    | 2.0000e-004        | 9.7700e-003   | 0.0000        | 28.8762         | 28.8762         | 5.2000e-004        | 0.0000        | 28.8893         |
| <b>Total</b> | <b>0.0204</b> | <b>0.2930</b> | <b>0.2046</b> | <b>1.0400e-003</b> | <b>0.0538</b> | <b>8.7000e-004</b> | <b>0.0547</b> | <b>0.0147</b>  | <b>8.3000e-004</b> | <b>0.0156</b> | <b>0.0000</b> | <b>100.5960</b> | <b>100.5960</b> | <b>6.7200e-003</b> | <b>0.0000</b> | <b>100.7641</b> |

**3.5 Building Construction - 2022****Unmitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 4.2000e-003        | 0.0263        | 0.0298        | 4.0000e-005        |               | 1.3600e-003        | 1.3600e-003        |                | 1.3100e-003        | 1.3100e-003        | 0.0000        | 3.3685        | 3.3685        | 6.5000e-004        | 0.0000        | 3.3847        |
| <b>Total</b> | <b>4.2000e-003</b> | <b>0.0263</b> | <b>0.0298</b> | <b>4.0000e-005</b> |               | <b>1.3600e-003</b> | <b>1.3600e-003</b> |                | <b>1.3100e-003</b> | <b>1.3100e-003</b> | <b>0.0000</b> | <b>3.3685</b> | <b>3.3685</b> | <b>6.5000e-004</b> | <b>0.0000</b> | <b>3.3847</b> |

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**3.5 Building Construction - 2022****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        | 0.0370        | 0.0169        | 1.0000e-004        | 2.4600e-003        | 8.0000e-005        | 2.5400e-003        | 7.1000e-004        | 8.0000e-005        | 7.9000e-004        | 0.0000        | 9.7652         | 9.7652         | 8.5000e-004        | 0.0000        | 9.7864         |
| Worker       | 1.5200e-003        | 9.4000e-004   | 0.0105        | 4.0000e-005        | 4.9600e-003        | 3.0000e-005        | 4.9900e-003        | 1.3200e-003        | 3.0000e-005        | 1.3500e-003        | 0.0000        | 3.8372         | 3.8372         | 7.0000e-005        | 0.0000        | 3.8389         |
| <b>Total</b> | <b>2.6500e-003</b> | <b>0.0380</b> | <b>0.0274</b> | <b>1.4000e-004</b> | <b>7.4200e-003</b> | <b>1.1000e-004</b> | <b>7.5300e-003</b> | <b>2.0300e-003</b> | <b>1.1000e-004</b> | <b>2.1400e-003</b> | <b>0.0000</b> | <b>13.6024</b> | <b>13.6024</b> | <b>9.2000e-004</b> | <b>0.0000</b> | <b>13.6253</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     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 4.2000e-003        | 0.0263        | 0.0298        | 4.0000e-005        |               | 2.0000e-004        | 2.0000e-004        |                | 2.0000e-004        | 2.0000e-004        | 0.0000        | 3.3685        | 3.3685        | 6.5000e-004        | 0.0000        | 3.3847        |
| <b>Total</b> | <b>4.2000e-003</b> | <b>0.0263</b> | <b>0.0298</b> | <b>4.0000e-005</b> |               | <b>2.0000e-004</b> | <b>2.0000e-004</b> |                | <b>2.0000e-004</b> | <b>2.0000e-004</b> | <b>0.0000</b> | <b>3.3685</b> | <b>3.3685</b> | <b>6.5000e-004</b> | <b>0.0000</b> | <b>3.3847</b> |

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**3.5 Building Construction - 2022****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        | 0.0370        | 0.0169        | 1.0000e-004        | 2.4600e-003        | 8.0000e-005        | 2.5400e-003        | 7.1000e-004        | 8.0000e-005        | 7.9000e-004        | 0.0000        | 9.7652         | 9.7652         | 8.5000e-004        | 0.0000        | 9.7864         |
| Worker       | 1.5200e-003        | 9.4000e-004   | 0.0105        | 4.0000e-005        | 4.9600e-003        | 3.0000e-005        | 4.9900e-003        | 1.3200e-003        | 3.0000e-005        | 1.3500e-003        | 0.0000        | 3.8372         | 3.8372         | 7.0000e-005        | 0.0000        | 3.8389         |
| <b>Total</b> | <b>2.6500e-003</b> | <b>0.0380</b> | <b>0.0274</b> | <b>1.4000e-004</b> | <b>7.4200e-003</b> | <b>1.1000e-004</b> | <b>7.5300e-003</b> | <b>2.0300e-003</b> | <b>1.1000e-004</b> | <b>2.1400e-003</b> | <b>0.0000</b> | <b>13.6024</b> | <b>13.6024</b> | <b>9.2000e-004</b> | <b>0.0000</b> | <b>13.6253</b> |

**3.6 Paving - 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     | 1.0600e-003        | 0.0108        | 0.0142        | 2.0000e-005        |               | 5.6000e-004        | 5.6000e-004        |                | 5.1000e-004        | 5.1000e-004        | 0.0000        | 1.9001        | 1.9001        | 6.1000e-004        | 0.0000        | 1.9154        |
| Paving       | 0.0000             |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>1.0600e-003</b> | <b>0.0108</b> | <b>0.0142</b> | <b>2.0000e-005</b> |               | <b>5.6000e-004</b> | <b>5.6000e-004</b> |                | <b>5.1000e-004</b> | <b>5.1000e-004</b> | <b>0.0000</b> | <b>1.9001</b> | <b>1.9001</b> | <b>6.1000e-004</b> | <b>0.0000</b> | <b>1.9154</b> |

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**3.6 Paving - 2022****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       | 8.8000e-004        | 5.5000e-004        | 6.1400e-003        | 2.0000e-005        | 2.8900e-003        | 2.0000e-005        | 2.9100e-003        | 7.7000e-004        | 2.0000e-005        | 7.9000e-004        | 0.0000        | 2.2384        | 2.2384        | 4.0000e-005        | 0.0000        | 2.2393        |
| <b>Total</b> | <b>8.8000e-004</b> | <b>5.5000e-004</b> | <b>6.1400e-003</b> | <b>2.0000e-005</b> | <b>2.8900e-003</b> | <b>2.0000e-005</b> | <b>2.9100e-003</b> | <b>7.7000e-004</b> | <b>2.0000e-005</b> | <b>7.9000e-004</b> | <b>0.0000</b> | <b>2.2384</b> | <b>2.2384</b> | <b>4.0000e-005</b> | <b>0.0000</b> | <b>2.2393</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     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 1.0600e-003        | 0.0108        | 0.0142        | 2.0000e-005        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        | 0.0000        | 1.9001        | 1.9001        | 6.1000e-004        | 0.0000        | 1.9154        |
| Paving       | 0.0000             |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>1.0600e-003</b> | <b>0.0108</b> | <b>0.0142</b> | <b>2.0000e-005</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> | <b>0.0000</b> | <b>1.9001</b> | <b>1.9001</b> | <b>6.1000e-004</b> | <b>0.0000</b> | <b>1.9154</b> |

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**3.6 Paving - 2022****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       | 8.8000e-004        | 5.5000e-004        | 6.1400e-003        | 2.0000e-005        | 2.8900e-003        | 2.0000e-005        | 2.9100e-003        | 7.7000e-004        | 2.0000e-005        | 7.9000e-004        | 0.0000        | 2.2384        | 2.2384        | 4.0000e-005        | 0.0000        | 2.2393        |
| <b>Total</b> | <b>8.8000e-004</b> | <b>5.5000e-004</b> | <b>6.1400e-003</b> | <b>2.0000e-005</b> | <b>2.8900e-003</b> | <b>2.0000e-005</b> | <b>2.9100e-003</b> | <b>7.7000e-004</b> | <b>2.0000e-005</b> | <b>7.9000e-004</b> | <b>0.0000</b> | <b>2.2384</b> | <b>2.2384</b> | <b>4.0000e-005</b> | <b>0.0000</b> | <b>2.2393</b> |

**3.7 Architectural Coating - 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 | 0.5345        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Off-Road        | 0.0960        | 0.6725        | 0.8036        | 1.3100e-003        |               | 0.0412        | 0.0412        |                | 0.0412        | 0.0412        | 0.0000        | 112.8425        | 112.8425        | 8.0400e-003        | 0.0000        | 113.0436        |
| <b>Total</b>    | <b>0.6305</b> | <b>0.6725</b> | <b>0.8036</b> | <b>1.3100e-003</b> |               | <b>0.0412</b> | <b>0.0412</b> |                | <b>0.0412</b> | <b>0.0412</b> | <b>0.0000</b> | <b>112.8425</b> | <b>112.8425</b> | <b>8.0400e-003</b> | <b>0.0000</b> | <b>113.0436</b> |

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**3.7 Architectural Coating - 2021****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       | 7.1400e-003        | 4.6400e-003        | 0.0503        | 2.0000e-004        | 0.0220        | 1.3000e-004        | 0.0222        | 5.8700e-003        | 1.2000e-004        | 5.9900e-003        | 0.0000        | 17.7019        | 17.7019        | 3.2000e-004        | 0.0000        | 17.7099        |
| <b>Total</b> | <b>7.1400e-003</b> | <b>4.6400e-003</b> | <b>0.0503</b> | <b>2.0000e-004</b> | <b>0.0220</b> | <b>1.3000e-004</b> | <b>0.0222</b> | <b>5.8700e-003</b> | <b>1.2000e-004</b> | <b>5.9900e-003</b> | <b>0.0000</b> | <b>17.7019</b> | <b>17.7019</b> | <b>3.2000e-004</b> | <b>0.0000</b> | <b>17.7099</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        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                 |                 |                    |               |                 |
| Archit. Coating | 0.5345        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Off-Road        | 0.0960        | 0.6725        | 0.8036        | 1.3100e-003        |               | 6.1900e-003        | 6.1900e-003        |                | 6.1900e-003        | 6.1900e-003        | 0.0000        | 112.8424        | 112.8424        | 8.0400e-003        | 0.0000        | 113.0435        |
| <b>Total</b>    | <b>0.6305</b> | <b>0.6725</b> | <b>0.8036</b> | <b>1.3100e-003</b> |               | <b>6.1900e-003</b> | <b>6.1900e-003</b> |                | <b>6.1900e-003</b> | <b>6.1900e-003</b> | <b>0.0000</b> | <b>112.8424</b> | <b>112.8424</b> | <b>8.0400e-003</b> | <b>0.0000</b> | <b>113.0435</b> |

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**3.7 Architectural Coating - 2021****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       | 7.1400e-003        | 4.6400e-003        | 0.0503        | 2.0000e-004        | 0.0220        | 1.3000e-004        | 0.0222        | 5.8700e-003        | 1.2000e-004        | 5.9900e-003        | 0.0000        | 17.7019        | 17.7019        | 3.2000e-004        | 0.0000        | 17.7099        |
| <b>Total</b> | <b>7.1400e-003</b> | <b>4.6400e-003</b> | <b>0.0503</b> | <b>2.0000e-004</b> | <b>0.0220</b> | <b>1.3000e-004</b> | <b>0.0222</b> | <b>5.8700e-003</b> | <b>1.2000e-004</b> | <b>5.9900e-003</b> | <b>0.0000</b> | <b>17.7019</b> | <b>17.7019</b> | <b>3.2000e-004</b> | <b>0.0000</b> | <b>17.7099</b> |

**3.7 Architectural Coating - 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 | 0.1203        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0202        | 0.1396        | 0.1804        | 3.0000e-004        |               | 8.0600e-003        | 8.0600e-003        |                | 8.0600e-003        | 8.0600e-003        | 0.0000        | 25.3896        | 25.3896        | 1.7200e-003        | 0.0000        | 25.4326        |
| <b>Total</b>    | <b>0.1405</b> | <b>0.1396</b> | <b>0.1804</b> | <b>3.0000e-004</b> |               | <b>8.0600e-003</b> | <b>8.0600e-003</b> |                | <b>8.0600e-003</b> | <b>8.0600e-003</b> | <b>0.0000</b> | <b>25.3896</b> | <b>25.3896</b> | <b>1.7200e-003</b> | <b>0.0000</b> | <b>25.4326</b> |

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**3.7 Architectural Coating - 2022****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       | 1.5200e-003        | 9.4000e-004        | 0.0105        | 4.0000e-005        | 4.9600e-003        | 3.0000e-005        | 4.9900e-003        | 1.3200e-003        | 3.0000e-005        | 1.3500e-003        | 0.0000        | 3.8372        | 3.8372        | 7.0000e-005        | 0.0000        | 3.8389        |
| <b>Total</b> | <b>1.5200e-003</b> | <b>9.4000e-004</b> | <b>0.0105</b> | <b>4.0000e-005</b> | <b>4.9600e-003</b> | <b>3.0000e-005</b> | <b>4.9900e-003</b> | <b>1.3200e-003</b> | <b>3.0000e-005</b> | <b>1.3500e-003</b> | <b>0.0000</b> | <b>3.8372</b> | <b>3.8372</b> | <b>7.0000e-005</b> | <b>0.0000</b> | <b>3.8389</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        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 0.1203        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0202        | 0.1396        | 0.1804        | 3.0000e-004        |               | 1.2100e-003        | 1.2100e-003        |                | 1.2100e-003        | 1.2100e-003        | 0.0000        | 25.3895        | 25.3895        | 1.7200e-003        | 0.0000        | 25.4326        |
| <b>Total</b>    | <b>0.1405</b> | <b>0.1396</b> | <b>0.1804</b> | <b>3.0000e-004</b> |               | <b>1.2100e-003</b> | <b>1.2100e-003</b> |                | <b>1.2100e-003</b> | <b>1.2100e-003</b> | <b>0.0000</b> | <b>25.3895</b> | <b>25.3895</b> | <b>1.7200e-003</b> | <b>0.0000</b> | <b>25.4326</b> |

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**3.7 Architectural Coating - 2022****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       | 1.5200e-003        | 9.4000e-004        | 0.0105        | 4.0000e-005        | 4.9600e-003        | 3.0000e-005        | 4.9900e-003        | 1.3200e-003        | 3.0000e-005        | 1.3500e-003        | 0.0000        | 3.8372        | 3.8372        | 7.0000e-005        | 0.0000        | 3.8389        |
| <b>Total</b> | <b>1.5200e-003</b> | <b>9.4000e-004</b> | <b>0.0105</b> | <b>4.0000e-005</b> | <b>4.9600e-003</b> | <b>3.0000e-005</b> | <b>4.9900e-003</b> | <b>1.3200e-003</b> | <b>3.0000e-005</b> | <b>1.3500e-003</b> | <b>0.0000</b> | <b>3.8372</b> | <b>3.8372</b> | <b>7.0000e-005</b> | <b>0.0000</b> | <b>3.8389</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

Increase Density

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

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|             | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Category    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |          |
| Mitigated   | 0.1342  | 0.3150 | 1.0778 | 2.8200e-003 | 0.2559        | 2.6100e-003  | 0.2585     | 0.0688         | 2.4200e-003   | 0.0712      | 0.0000   | 258.5372  | 258.5372  | 0.0108 | 0.0000 | 258.8063 |
| Unmitigated | 0.1608  | 0.4260 | 1.6333 | 5.3800e-003 | 0.5145        | 4.4500e-003  | 0.5189     | 0.1383         | 4.1400e-003   | 0.1424      | 0.0000   | 493.0410  | 493.0410  | 0.0183 | 0.0000 | 493.4978 |

## 4.2 Trip Summary Information

| Land Use                       | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|--------------------------------|-------------------------|----------|--------|-------------|------------|
|                                | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Apartments Mid Rise            | 816.00                  | 816.00   | 816.00 | 1,387,473   | 690,152    |
| Enclosed Parking with Elevator | 0.00                    | 0.00     | 0.00   |             |            |
| Total                          | 816.00                  | 816.00   | 816.00 | 1,387,473   | 690,152    |

## 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            | 5.26       | 5.26       | 5.26        | 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       |

## 4.4 Fleet Mix

| Land Use                       | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise            | 0.470625 | 0.050338 | 0.265549 | 0.140745 | 0.017339 | 0.006996 | 0.024054 | 0.006595 | 0.004215 | 0.003104 | 0.009159 | 0.000488 | 0.000793 |
| Enclosed Parking with Elevator | 0.470625 | 0.050338 | 0.265549 | 0.140745 | 0.017339 | 0.006996 | 0.024054 | 0.006595 | 0.004215 | 0.003104 | 0.009159 | 0.000488 | 0.000793 |

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**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Install Energy Efficient Appliances

|                         | ROG         | NOx    | CO     | SO2         | 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   | 228.3570  | 228.3570  | 0.0103      | 2.1400e-003 | 229.2518 |
| Electricity Unmitigated |             |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 232.9894  | 232.9894  | 0.0105      | 2.1800e-003 | 233.9023 |
| NaturalGas Mitigated    | 7.0600e-003 | 0.0603 | 0.0257 | 3.9000e-004 |               | 4.8800e-003  | 4.8800e-003 |                | 4.8800e-003   | 4.8800e-003 | 0.0000   | 69.8834   | 69.8834   | 1.3400e-003 | 1.2800e-003 | 70.2986  |
| NaturalGas Unmitigated  | 7.0600e-003 | 0.0603 | 0.0257 | 3.9000e-004 |               | 4.8800e-003  | 4.8800e-003 |                | 4.8800e-003   | 4.8800e-003 | 0.0000   | 69.8834   | 69.8834   | 1.3400e-003 | 1.2800e-003 | 70.2986  |

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**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 Mid Rise            | 1.30956e+006   | 7.0600e-003        | 0.0603        | 0.0257        | 3.9000e-004        |               | 4.8800e-003        | 4.8800e-003        |                | 4.8800e-003        | 4.8800e-003        | 0.0000        | 69.8834        | 69.8834        | 1.3400e-003        | 1.2800e-003        | 70.2986        |
| 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         |
| <b>Total</b>                   |                | <b>7.0600e-003</b> | <b>0.0603</b> | <b>0.0257</b> | <b>3.9000e-004</b> |               | <b>4.8800e-003</b> | <b>4.8800e-003</b> |                | <b>4.8800e-003</b> | <b>4.8800e-003</b> | <b>0.0000</b> | <b>69.8834</b> | <b>69.8834</b> | <b>1.3400e-003</b> | <b>1.2800e-003</b> | <b>70.2986</b> |

**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            | 1.30956e+006   | 7.0600e-003        | 0.0603        | 0.0257        | 3.9000e-004        |               | 4.8800e-003        | 4.8800e-003        |                | 4.8800e-003        | 4.8800e-003        | 0.0000        | 69.8834        | 69.8834        | 1.3400e-003        | 1.2800e-003        | 70.2986        |
| 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         |
| <b>Total</b>                   |                | <b>7.0600e-003</b> | <b>0.0603</b> | <b>0.0257</b> | <b>3.9000e-004</b> |               | <b>4.8800e-003</b> | <b>4.8800e-003</b> |                | <b>4.8800e-003</b> | <b>4.8800e-003</b> | <b>0.0000</b> | <b>69.8834</b> | <b>69.8834</b> | <b>1.3400e-003</b> | <b>1.2800e-003</b> | <b>70.2986</b> |

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**5.3 Energy by Land Use - Electricity****Unmitigated**

|                                | Electricity Use | Total CO2       | CH4           | N2O                | CO2e            |
|--------------------------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Land Use                       | kWh/yr          | MT/yr           |               |                    |                 |
| Apartments Mid Rise            | 633299          | 184.2338        | 8.3300e-003   | 1.7200e-003        | 184.9557        |
| Enclosed Parking with Elevator | 167596          | 48.7556         | 2.2000e-003   | 4.6000e-004        | 48.9466         |
| <b>Total</b>                   |                 | <b>232.9894</b> | <b>0.0105</b> | <b>2.1800e-003</b> | <b>233.9023</b> |

**Mitigated**

|                                | Electricity Use | Total CO2       | CH4           | N2O                | CO2e            |
|--------------------------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Land Use                       | kWh/yr          | MT/yr           |               |                    |                 |
| Apartments Mid Rise            | 617375          | 179.6014        | 8.1200e-003   | 1.6800e-003        | 180.3051        |
| Enclosed Parking with Elevator | 167596          | 48.7556         | 2.2000e-003   | 4.6000e-004        | 48.9466         |
| <b>Total</b>                   |                 | <b>228.3570</b> | <b>0.0103</b> | <b>2.1400e-003</b> | <b>229.2518</b> |

**6.0 Area Detail****6.1 Mitigation Measures Area**

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Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

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   | 0.7509  | 0.0135 | 1.1146 | 6.0000e-005 |               | 6.2200e-003  | 6.2200e-003 |                | 6.2200e-003   | 6.2200e-003 | 0.0000   | 2.5689    | 2.5689    | 1.7700e-003 | 1.0000e-005 | 2.6171 |
| Unmitigated | 0.7509  | 0.0135 | 1.1146 | 6.0000e-005 |               | 6.2200e-003  | 6.2200e-003 |                | 6.2200e-003   | 6.2200e-003 | 0.0000   | 2.5689    | 2.5689    | 1.7700e-003 | 1.0000e-005 | 2.6171 |

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**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 | 0.0655        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Consumer Products     | 0.6517        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Hearth                | 8.0000e-005   | 6.5000e-004   | 2.8000e-004   | 0.0000             |               | 5.0000e-005        | 5.0000e-005        |                | 5.0000e-005        | 5.0000e-005        | 0.0000        | 0.7490        | 0.7490        | 1.0000e-005        | 1.0000e-005        | 0.7535        |
| Landscaping           | 0.0336        | 0.0128        | 1.1143        | 6.0000e-005        |               | 6.1700e-003        | 6.1700e-003        |                | 6.1700e-003        | 6.1700e-003        | 0.0000        | 1.8198        | 1.8198        | 1.7500e-003        | 0.0000             | 1.8636        |
| <b>Total</b>          | <b>0.7509</b> | <b>0.0135</b> | <b>1.1146</b> | <b>6.0000e-005</b> |               | <b>6.2200e-003</b> | <b>6.2200e-003</b> |                | <b>6.2200e-003</b> | <b>6.2200e-003</b> | <b>0.0000</b> | <b>2.5689</b> | <b>2.5689</b> | <b>1.7600e-003</b> | <b>1.0000e-005</b> | <b>2.6171</b> |

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**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           | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |                    |               |
| Architectural Coating | 0.0655        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Consumer Products     | 0.6517        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Hearth                | 8.0000e-005   | 6.5000e-004   | 2.8000e-004   | 0.0000             |               | 5.0000e-005        | 5.0000e-005        |                | 5.0000e-005        | 5.0000e-005        | 0.0000        | 0.7490        | 0.7490        | 1.0000e-005        | 1.0000e-005        | 0.7535        |
| Landscaping           | 0.0336        | 0.0128        | 1.1143        | 6.0000e-005        |               | 6.1700e-003        | 6.1700e-003        |                | 6.1700e-003        | 6.1700e-003        | 0.0000        | 1.8198        | 1.8198        | 1.7500e-003        | 0.0000             | 1.8636        |
| <b>Total</b>          | <b>0.7509</b> | <b>0.0135</b> | <b>1.1146</b> | <b>6.0000e-005</b> |               | <b>6.2200e-003</b> | <b>6.2200e-003</b> |                | <b>6.2200e-003</b> | <b>6.2200e-003</b> | <b>0.0000</b> | <b>2.5689</b> | <b>2.5689</b> | <b>1.7600e-003</b> | <b>1.0000e-005</b> | <b>2.6171</b> |

**7.0 Water Detail****7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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|             | Total CO2 | CH4    | N2O         | CO2e    |
|-------------|-----------|--------|-------------|---------|
| Category    | MT/yr     |        |             |         |
| Mitigated   | 20.6784   | 0.2556 | 6.1900e-003 | 28.9115 |
| Unmitigated | 24.7580   | 0.3194 | 7.7200e-003 | 35.0451 |

## 7.2 Water by Land Use

Unmitigated

|                                | Indoor/Outdoor Use | Total CO2      | CH4           | N2O                | CO2e           |
|--------------------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use                       | Mgal               | MT/yr          |               |                    |                |
| Apartments Mid Rise            | 9.7731 / 6.1613    | 24.7580        | 0.3194        | 7.7200e-003        | 35.0451        |
| Enclosed Parking with Elevator | 0 / 0              | 0.0000         | 0.0000        | 0.0000             | 0.0000         |
| <b>Total</b>                   |                    | <b>24.7580</b> | <b>0.3194</b> | <b>7.7200e-003</b> | <b>35.0451</b> |

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**7.2 Water by Land Use****Mitigated**

|                                | Indoor/Outdoor Use | Total CO2      | CH4           | N2O                | CO2e           |
|--------------------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use                       | Mgal               | MT/yr          |               |                    |                |
| Apartments Mid Rise            | 7.81848 / 5.78547  | 20.6784        | 0.2556        | 6.1900e-003        | 28.9115        |
| Enclosed Parking with Elevator | 0 / 0              | 0.0000         | 0.0000        | 0.0000             | 0.0000         |
| <b>Total</b>                   |                    | <b>20.6784</b> | <b>0.2556</b> | <b>6.1900e-003</b> | <b>28.9115</b> |

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

|             | Total CO2 | CH4    | N2O    | CO2e    |
|-------------|-----------|--------|--------|---------|
|             | MT/yr     |        |        |         |
| Mitigated   | 14.0064   | 0.8278 | 0.0000 | 34.7002 |
| Unmitigated | 14.0064   | 0.8278 | 0.0000 | 34.7002 |

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**8.2 Waste by Land Use****Unmitigated**

|                                | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e           |
|--------------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use                       | tons           | MT/yr          |               |               |                |
| Apartments Mid Rise            | 69             | 14.0064        | 0.8278        | 0.0000        | 34.7002        |
| Enclosed Parking with Elevator | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| <b>Total</b>                   |                | <b>14.0064</b> | <b>0.8278</b> | <b>0.0000</b> | <b>34.7002</b> |

**Mitigated**

|                                | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e           |
|--------------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use                       | tons           | MT/yr          |               |               |                |
| Apartments Mid Rise            | 69             | 14.0064        | 0.8278        | 0.0000        | 34.7002        |
| Enclosed Parking with Elevator | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| <b>Total</b>                   |                | <b>14.0064</b> | <b>0.8278</b> | <b>0.0000</b> | <b>34.7002</b> |

**9.0 Operational Offroad**

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

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**10.0 Stationary Equipment**

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**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**

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