Appendix A
Air Quality Assessment

Air Quality Assessment
for the proposed
Melia 178th Street Townhomes Project
in the City of Gardena, California

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May 2019

TABLE OF CONTENTS

LIST OF ABBREVIATED TERMS

AQMP	air quality management plan
AB	Assembly Bill
ADT	average daily traffic
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAAQS	California Ambient Air Quality Standards
CCAA	California Clean Air Act
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
cy	cubic yards
DPM	diesel particulate matter
EPA	Environmental Protection Agency
FCAA	Federal Clean Air Act
H_2S	hydrogen sulfide
Pb	Lead
LST	local significance threshold
$\mu g/m^3$	micrograms per cubic meter
mg/m^3	milligrams per cubic meter
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
O_3	Ozone
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SRA	source receptor area
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCAG	Southern California Association of Governments
SF	square foot
SO_{4-2}	Sulfates
SO_2	sulfur dioxide
TAC	toxic air contaminant
C_2H_3Cl	vinyl chloride
VOC	volatile organic compound

1 INTRODUCTION

This report documents the results of an Air Quality Assessment completed for the Melia 178th Street Townhomes Project (Project). The purpose of this Air Quality Assessment is to evaluate the Project's potential construction and operational emissions and determine the Project's level of impact on the environment.

1.1 PROJECT LOCATION & SETTING

The Project site is in the County of Los Angeles (County), in the City of Gardena (City), approximately 12.5 miles south of downtown Los Angeles; see Exhibit 1: Regional Vicinity Map. The 5.63-acre (AC) property is comprised of two parcels (APN 6106-013-040 and 6106-013-041) located at 1515 West 178th Street; see Exhibit 2: Site Vicinity Map. Regional access to the Project site is provided via the Artesia Freeway (State Route 91 (SR-91)), the San Diego Freeway (Interstate 405 (I 405)) and the Harbor Freeway (State Route 110 (SR-110)) located to the northeast, south, and east, respectively. Local access to the Project site is provided via West 178th Street to the south, which is accessed from Normandie Avenue to the east, and South Western Avenue to the west. Two access driveways are currently located at 178th Street, at the eastern and western portions of the site.

The Project site is at the City's southern portion, in a predominantly industrial area, although residential uses exist west of Denker Avenue. The site is bounded by a vacant lot and an equestrian use (i.e., horse stables) to the north, industrial uses to the south beyond West 178th Street, office commercial and industrial uses to the east, and a mobile home park to the west.

As depicted on Exhibit 2-2, the Project site is fully developed as an industrial use totaling approximately 105,036 square feet (SF) and including a trucking warehouse with associated surface parking lot and outdoor trailer storage. The warehouse is used for maintenance and storage of trucks and trailers.

The Project site is designated Industrial with a Mixed-Use Overlay[1] and zoned General Industrial (M-2) Zone with a Mixed-Use Overlay (MU) Zone.[2]

1.2 PROJECT DESCRIPTION

The Project proposes to develop a residential community consisting of 114 three-story, attached townhomes; see Exhibit 3: Conceptual Site Plan. The 114 residential dwelling units (DU) would be constructed in 22 buildings, with between four and six DU per building. The proposed Project would have a density of 20.24 DU/AC (gross). The Project proposes to remove all existing onsite improvements (approximately 105,036 square feet (SF)) and construct approximately 191,348 SF of new townhomes, 48,727 SF of common open space, and 21,279 SF of private open space. A total of 287 parking spaces, including resident and guest, are proposed. The Project proposes a General Plan Amendment to change the site's land use designation from Industrial with a Mixed Use Overlay to High Density Residential, and Zone Change to change the site's zoning from General Industrial (M-2) with a Mixed-Use Overlay Zone (MU) to High Density Multiple-Family Residential Zone (R-4).

[1] City of Gardena. (2006, Updated February 2013). *Gardena General Plan 2006. Figure LU-2: 2013 General Plan Land Use Policy Map*. Gardena, CA: City of Gardena.

[2] City of Gardena. (January 2018). *Zoning Map*. Gardena, CA: City of Gardena Planning Division.

Project Construction and Phasing

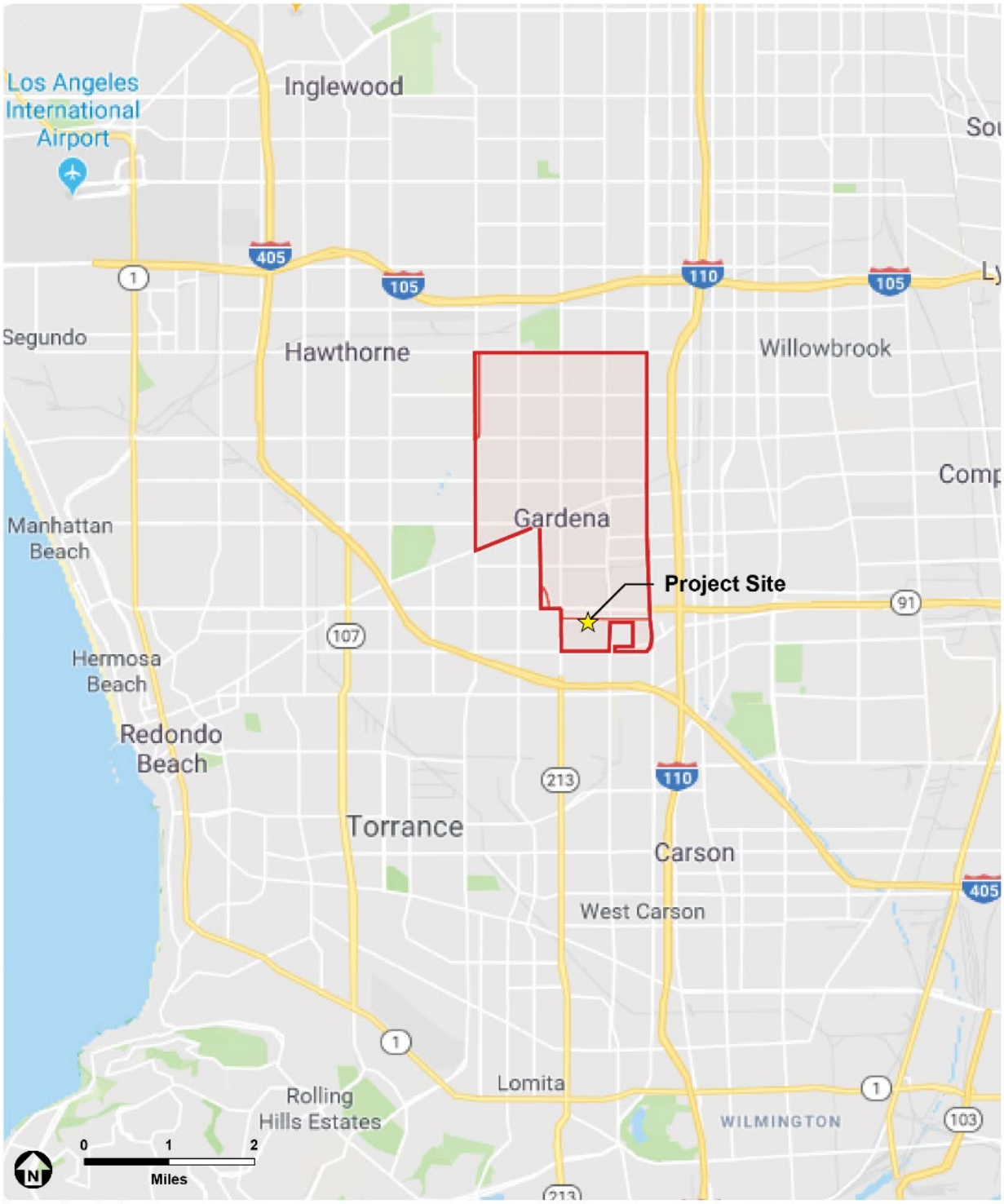
Project construction is anticipated to occur beginning in the Fall of 2019 and ending early 2021, in the following sequence:

- Demolition,
- Site Preparation,
- Grading,
- Building Construction, and
- Paving, Architectural Coating, and Landscaping.

Grading for the proposed improvements would require cut and fill to create building pads. Grading is estimated to require approximately 7,600 cubic yards of soil import. Final grading plans would be approved by the City Engineer before Grading Permit issuance. All infrastructure (i.e., storm drain, water, wastewater, dry utilities, and street improvements) would be installed during grading.

Home construction would occur over approximately five to seven phases, the timing of which would be dependent upon market conditions. For purposes of this environmental analysis, opening year is assumed to be 2021.

Exhibit 1: Regional Vicinity Map

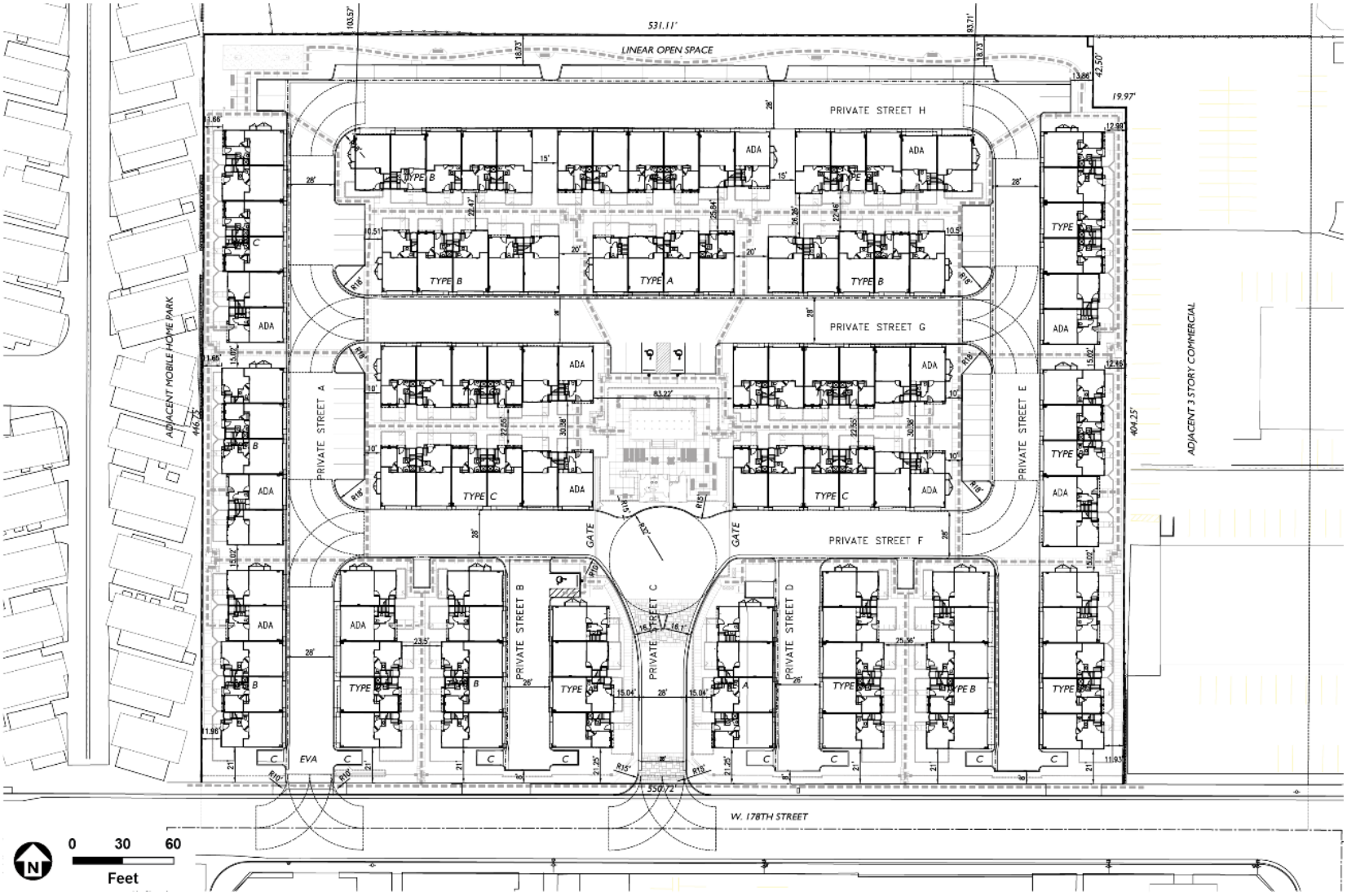


Source: Google Maps

Exhibit 2: Site Vicinity

Source: Near Maps

Exhibit 3: Conceptual Site Plan



2 ENVIRONMENTAL SETTING

2.1 CLIMATE AND METEOROLOGY

The California Air Resources Board (CARB) divides the State into 15 air basins that share similar meteorological and topographical features. The proposed Project is located within the 6,645-square-mile South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, as well as all of Orange County. SCAB is on a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean on the southwest and high mountains forming the remainder of the perimeter.[3] SCAB's air quality is determined by natural factors such as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

SCAB is part of a semi-permanent high-pressure zone in the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. This usually mild weather pattern is occasionally interrupted by periods of extreme heat, winter storms, and Santa Ana winds. The annual average temperature throughout SCAB ranges from low 60 to high 80 degrees Fahrenheit with little variance. With more oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

Contrasting the very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rainfall occurs between the months of November and April. Summer rainfall is reduced to widely scattered thundershowers near the coast, with slightly heavier activity in the east and over the mountains.

Although SCAB has a semiarid climate, the air closer to the Earth's surface is typically moist because of the presence of a shallow marine layer. Except for occasional periods when dry, continental air is brought into the SCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog are frequent and low clouds known as high fog are characteristic climatic features, especially along the coast. Annual average humidity is 70 percent at the coast and 57 percent in SCAB's eastern portions.

Wind patterns across SCAB are characterized by westerly or southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Wind speed is typically higher during the dry summer months than during the rainy winter.

Between periods of wind, air stagnation may occur in both the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During winter and fall, surface high-pressure systems over SCAB, combined with other meteorological conditions, result in very strong, downslope Santa Ana winds. These winds normally continue for a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. SCAB's air quality generally ranges from fair to poor and is like air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

[3] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.

In addition to the characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which air pollutants are mixed. These inversions are the marine inversion and the radiation inversion. The height of the base of the inversion at any given time is called the "mixing height." The combination of winds and inversions is a critical determinant leading to highly degraded air quality for the SCAB in the summer and generally good air quality in the winter.

2.2 AIR POLLUTANTS OF CONCERN

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state laws. These regulated air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants.

Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead are primary air pollutants. Of these, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. For example, the criteria pollutant ozone (O_3) is formed by a chemical reaction between ROG and NO_X in the presence of sunlight. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants. Sources and health effects commonly associated with criteria pollutants are summarized in Table 1: Air Contaminants and Associated Public Health Concerns.

Table 1: Air Contaminants and Associated Public Health Concerns

Pollutant	Major Man-Made Sources	Human Health Effects
Particulate Matter (PM_{10} and $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases/volatile organic compounds (ROG or VOC)[1] and nitrogen oxides (NO_X) in the presence of sunlight. Motor vehicle exhaust industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.

Table 1: Air Contaminants and Associated Public Health Concerns (continued)

Pollutant	Major Man-Made Sources	Human Health Effects
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead (Pb)	Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.	Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ.

Notes:
[1] Volatile Organic Compounds (VOCs or Reactive Organic Gases [ROG]) are hydrocarbons/organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Source: California Air Pollution Control Officers Association (CAPCOA), *Health Effects*, http://www.capcoa.org/health-effects/, Accessed March 14, 2019.

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne substances that can cause short-term (acute) or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes more than 200 compounds, including particulate emissions from diesel-fueled engines.

CARB identified diesel particulate matter (DPM) as a toxic air contaminant. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Existing levels of ambient air quality, historical trends, and projections near the Project site are documented by measurements made by the South Coast Air Quality Management District (SCAQMD), SCAB's air pollution regulatory agency that maintains air quality monitoring stations, which process ambient air quality measurements.

Ozone (O_3) and particulate matter (PM_{10} and $PM_{2.5}$) are pollutants of concern in the SCAB. The closest air monitoring station to the proposed Project site that monitors ambient concentrations of these pollutants is the Compton-700 North Bullis Road Monitoring Station (located approximately 6.0 miles northeast of the Project site). Local air quality data from 2015 to 2017 is provided in Table 2: Ambient Air Quality Data. Table 2 lists the monitored maximum concentrations and number of exceedances of federal or state air quality standards for each year.

Table 2: Ambient Air Quality Data

Pollutant	Compton-700 North Bullis Road Monitoring Station[1]		
	2015	2016	2017
Ozone (O_3)			
1-hour Maximum Concentration (ppm)	0.091	0.098	0.092
8-hour Maximum Concentration (ppm)	0.072	0.071	0.076
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	0	1	0
NAAQS 8-hour (>0.070 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
1-hour Maximum Concentration (ppm)	73.6	63.7	99.1
Number of Days Standard Exceeded			
NAAQS 1-hour (>100 ppm)	0	0	0
CAAQS 1-hour (>0.18 ppm)	0	0	0
Particulate Matter Less Than 2.5 Microns ($PM_{2.5}$)			
National 24-hour Maximum Concentration	41.3	36.3	66.7
State 24-hour Maximum Concentration	41.3	36.3	66.7
Number of Days Standard Exceeded			
NAAQS 24-hour (>35 µg/m³)	3	1	5

Notes: NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million; µg/m³ = micrograms per cubic meter; NM = not measured

[1] Measurements taken at the Compton-700 North Bullis Road Monitoring Station, Compton, California 90221 (CARB# 70112).

Source: All pollutant measurements are from the CARB Aerometric Data Analysis and Management system database (https://www.arb.ca.gov/adam).

2.3 SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive receptors in proximity to localized sources of toxics are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The Project site is at the City's southern portion, in a predominantly industrial area, although residential uses exist west of Denker Avenue. The site is bounded by a vacant lot and an equestrian use (i.e., horse

stables) to the north, industrial uses to the south beyond West 178th Street, office commercial and industrial uses to the east, and a mobile home park to the west.

Table 3: Sensitive Receptors, lists the distances and locations of nearby sensitive receptors, which primarily include single-family residences, religious institutions, educational institutions, and recreational facilities.

Table 3: Sensitive Receptors

Receptor Type/Description	Distance and Direction from the Project Site
RESIDENTIAL	
Mobile Home Park Residential Neighborhood	Adjacent to the west
Single-Family Residential Neighborhood	120 feet to the southwest
Single-Family Residential Neighborhood	475 feet to the south
Multi-Family Residential Dwelling	350 feet to the southeast
RELIGIOUS INSTITUTIONS	
Gardena Torrance Southern Baptist	580 feet to the southeast
Gardena Valley Assembly of God	1,150 feet to the south
Gospel Venture International Church	1,386 feet to the west
First Missionary Baptist Church	1,390 feet to the southeast
The Church of Jesus Christ of Latter-day Saints	2,680 feet to the northwest
St Francis Korean Catholic Church	3,000 feet to the west
EDUCATIONAL INSTITUTIONS	
Pacific Lutheran Jr./Sr. High School	1,150 feet to the south
Gardena High School	1,210 feet to the east
Riley High School Gardena	2,078 feet to the south
Arlington Elementary School	3,340 feet to the west
RECREATIONAL FACILITIES	
City of Torrance Guenser Park	2,300 feet to the west
Arthur Lee Johnson Memorial Park	2,670 feet to the northeast

3 REGULATORY SETTING

3.1 FEDERAL

Federal Clean Air Act

Air quality is federally protected by the Federal Clean Air Act (FCAA) and its amendments. Under the FCAA, the EPA developed the primary and secondary National Ambient Air Quality Standards (NAAQS) for the criteria air pollutants including ozone, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead. Proposed projects in or near nonattainment areas could be subject to more stringent air-permitting requirements. The FCAA requires that each state prepare a State Implementation Plan (SIP) to demonstrate how it will attain the NAAQS within the federally imposed deadlines.

The U.S. Environmental Protection Agency (EPA) can withhold certain transportation funds from states that fail to comply with the FCAA's planning requirements. If a state fails to correct these planning deficiencies within two years of Federal notification, the EPA is required to develop a Federal implementation plan for the identified nonattainment area or areas. The provisions of 40 Code of Federal Regulations Parts 51 and 93 apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan. The EPA has designated enforcement of air pollution control regulations to the individual states. Applicable federal standards are summarized in Table 4: State and Federal Ambient Air Quality Standards.

3.2 STATE OF CALIFORNIA

California Air Resources Board

CARB administers California's air quality policy. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 4, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates.

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for the preparation of the SIP for meeting federal clean air standards for the State of California. Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events such as wildfires, volcanoes, etc. are not considered violations of a State standard, and are not used as a basis for designating areas as nonattainment. The applicable State standards are summarized in Table 4.

Table 4: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standards[1]	Federal Standards[2]
Ozone (O_3) [2, 5, 7]	8 Hour	0.070 ppm (137 µg/m³)	0.070 ppm
	1 Hour	0.09 ppm (180 µg/m³)	NA
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)
	1 Hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m³)	0.10 ppm[11]
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)
Sulfur Dioxide (SO_2) [8]	24 Hour	0.04 ppm (105 µg/m³)	0.14 ppm (365 µg/m³)
	1 Hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)
	Annual Arithmetic Mean	NA	0.03 ppm (80 µg/m³)
Particulate Matter (PM_{10}) [1, 3, 6]	24-Hour	50 µg/m³	150 µg/m³
	Annual Arithmetic Mean	20 µg/m³	NA
Fine Particulate Matter ($PM_{2.5}$) [3, 4, 6, 9]	24-Hour	NA	35 µg/m³
	Annual Arithmetic Mean	12 µg/m³	12 µg/m³
Sulfates (SO_{4-2})	24 Hour	25 µg/m³	NA
Lead (Pb) [10, 11]	30-Day Average	1.5 µg/m³	NA
	Calendar Quarter	NA	1.5 µg/m³
	Rolling 3-Month Average	NA	0.15 µg/m³
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (0.15 µg/m³)	NA
Vinyl Chloride (C_2H_3Cl) [10]	24 Hour	0.01 ppm (26 µg/m³)	NA

Notes:
ppm = parts per million; µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; – = no information available.

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. Measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe carbon monoxide standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.

2 National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m³.

3 Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard. NAAQS are set by the EPA at levels determined to be protective of public health with an adequate margin of safety.

4 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.

5 The national 1-hour ozone standard was revoked by the EPA on June 15, 2005.

6 In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}.

7 The 8-hour California ozone standard was approved by the CARB on April 28, 2005 and became effective on May 17, 2006.

8 On June 2, 2010, the EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following EPA initial designations of the new 1-hour SO_2 NAAQS.

9 In December 2012, EPA strengthened the annual $PM_{2.5}$ NAAQS from 15.0 to 12.0 µg/m³. In December 2014, the EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

10 CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.

11 National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.

Source: South Coast Air Quality Management District, *Air Quality Management Plan*, 2016; California Air Resources Board, *Ambient Air Quality Standards*, May 6, 2016.

3.3 REGIONAL

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is ensuring that federal and state ambient air quality standards are attained and maintained in SCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, and many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The SCAQMD is also the lead agency in charge of developing the AQMP, with input from the Southern California Association of Governments (SCAG) and CARB. The AQMP is a comprehensive plan that includes control strategies for stationary and area sources, as well as for on-road and off-road mobile sources. SCAG has the primary responsibility for providing future growth projections and the development and implementation of transportation control measures. CARB, in coordination with federal agencies, provides the control element for mobile sources.

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. The purpose of the AQMP is to set forth a comprehensive and integrated program that would lead the SCAB into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to update the SCAQMD's commitments towards meeting the federal 8-hour ozone standards. The AQMP incorporates the latest scientific and technological information and planning assumptions, including the 2016 *Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) and updated emission inventory methodologies for various source categories.

The SCAQMD has published the *CEQA Air Quality Handbook* (approved by the SCAQMD Governing Board in 1993 and augmented with guidance for Local Significance Thresholds [LST] in 2008). The SCAQMD guidance helps local government agencies and consultants develop environmental documents required by California Environmental Quality Act (CEQA) and identifies thresholds of significance for criteria pollutants for both construction and operation (see discussion of thresholds below). With the help of the *CEQA Air Quality Handbook* and associated guidance, local land use planners and consultants can analyze and document how existing and proposed projects affect air quality, in order to meet the CEQA review process requirements. The SCAQMD periodically provides supplemental guidance and updates to the handbook on their website.

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Under federal law, SCAG is designated as a Metropolitan Planning Organization and under state law as a Regional Transportation Planning Agency and a Council of Governments.

The state and national attainment status designations for SCAB are summarized in Table 5: South Coast Air Basin Attainment Status. SCAB is currently designated as a nonattainment area concerning the state ozone, PM_{10}, and $PM_{2.5}$ standards, as well as the national 8-hour ozone and $PM_{2.5}$ standards. The SCAB is designated as attainment or unclassified for the remaining state and federal standards.

Table 5: South Coast Air Basin Attainment Status		
Pollutant	**Federal**	**State**
Ozone (O_3) (1 Hour Standard)	Non-Attainment (Extreme)	Non-Attainment
Ozone (O_3) (8 Hour Standard)	Non-Attainment (Extreme)	Non-Attainment
Particulate Matter ($PM_{2.5}$) (24 Hour Standard)	Non-Attainment (Serious)	--
Particulate Matter ($PM_{2.5}$) (Annual Standard)	Non-Attainment (Moderate)	Non-Attainment
Particulate Matter (PM_{10}) (24 Hour Standard)	Attainment (Maintenance)	Non-Attainment
Particulate Matter (PM_{10}) (Annual Standard)	--	Non-Attainment
Carbon Monoxide (CO) (1 Hour Standard)	Attainment (Maintenance)	Attainment
Carbon Monoxide (CO) (8 Hour Standard)	Attainment (Maintenance)	Attainment
Nitrogen Dioxide (NO_2) (1 Hour Standard)	Unclassifiable/Attainment	Attainment
Nitrogen Dioxide (NO_2) (Annual Standard)	Attainment (Maintenance)	Attainment
Sulfur Dioxide (SO_2) (1 Hour Standard)	Unclassifiable/Attainment	Attainment
Sulfur Dioxide (SO_2) (24 Hour Standard)	--	Attainment
Lead (Pb) (30 Day Standard)	Unclassifiable/Attainment	--
Lead (Pb) (3 Month Standard)	--	Attainment
Sulfates (SO_{4-2}) (24 Hour Standard)	--	Attainment
Hydrogen Sulfide (H_2S) (1 Hour Standard)	--	Unclassified

Source: South Coast Air Quality Management District, *Air Quality Management Plan*, 2016; U.S. EPA, *Nonattainment Areas for Criteria Pollutants (Green Book)*, September 4, 2018.

Following are the SCAQMD rules that are required for the Project's construction activities:

- **Rule 401 (Visible Emissions)** – A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression Best Available Control Measures (BACMs) are summarized below.

  a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.

  b) All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.

  c) All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

  d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

  e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.

- **Rule 431.2** (**Sulfur Content of Liquid Fuels)** – This rule limits the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of sulfur oxides and particulates during combustion and to enable the use of add-on control devices for diesel fueled internal combustion engines.

- **Rule 445 (Wood Burning)** – This rule prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

4 SIGNIFICANCE CRITERIA AND METHODOLOGY

4.1 AIR QUALITY THRESHOLDS

State CEQA Guidelines Appendix G

Based upon the criteria derived from State CEQA Guidelines Appendix G, a project normally would have a significant effect on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan,
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard,
- Expose sensitive receptors to substantial pollutant concentrations, or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

South Coast Air Quality Management District

Mass Emissions Thresholds. The SCAQMD significance criteria may be relied upon to make the above determinations. According to the SCAQMD, an air quality impact is considered significant if a proposed project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality during project construction and operations, as shown in Table 6: South Coast Air Quality Management District Emissions Thresholds.

Table 6: South Coast Air Quality Management District Emissions Thresholds

Criteria Air Pollutants and Precursors (Regional)	Construction-Related	Operational-Related
	Average Daily Emissions (pounds/day)	Average Daily Emission (pounds/day)
Reactive Organic Gases (ROG)	75	55
Carbon Monoxide (CO)	550	550
Nitrogen Oxides (NO_X)	100	55
Sulfur Oxides (SO_X)	150	150
Coarse Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook,* 1993 ($PM_{2.5}$ threshold adopted June 1, 2007).

Localized Carbon Monoxide**.** In addition to the daily thresholds listed above, a proposed project would be subject to the ambient air quality standards. These are addressed through an analysis of localized CO impacts. The California 1-hour and 8-hour CO standards are:

- 1-hour = 20 ppm
- 8-hour = 9 ppm

The significance of localized impacts depends on whether ambient CO levels near a project site are above state and federal CO standards. The SCAB has been designated as attainment under the 1-hour and 8-hour standards.

Localized Significance Thresholds (LSTs)**.** In addition to the CO hotspot analysis, the SCAQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (off-site mobile source emissions are not included in the LST analysis). LSTs represent the maximum emissions that can be generated at a project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or state ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects that disturb 5.0 acres or less on a single day. The City of Gardena is located within SCAQMD SRA 3 (Southwest Coastal LA County). Table 7: Local Significance Thresholds (Construction/Operations), shows the LSTs for a 1-acre, 2-acre, and 5-acre project site in SRA 3 with sensitive receptors located within 25 meters of the Project site.

Table 7: Local Significance Thresholds (Construction/Operations)

Project Size	Nitrogen Oxide (NO_x) – lbs/day	Carbon Monoxide (CO) – lbs/day	Coarse Particulates (PM_{10}) – lbs/day	Fine Particulates ($PM_{2.5}$) – lbs/day
1 Acre	91/91	674/674	5/1	3/1
2 Acres	131/131	982/982	8/2	5/1
5 Acres	197/197	1,823/1,823	15/4	8/2

Source: South Coast Air Quality Management District, *Localized Significance Threshold Methodology,* July 2008.

4.2 METHODOLOGY

This air quality impact analysis considers construction and operational impacts associated with the proposed Project. Construction equipment, trucks, worker vehicles, and ground-disturbing activities associated with proposed Project construction would generate emissions of criteria air pollutants and precursors. Air quality impacts were assessed according to CARB and SCAQMD recommended methodologies. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod). CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects.

5 POTENTIAL IMPACTS AND MITIGATION

5.1 AIR QUALITY ANALYSIS

Threshold 5.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

As part of its enforcement responsibilities, the EPA requires that each state with nonattainment areas prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment regarding the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Project site is located within SCAB, which is under SCAQMD's jurisdiction. The SCAQMD is required, pursuant to the FCAA, to reduce emissions of criteria pollutants for which SCAB is in non-attainment. To reduce such emissions, the SCAQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, the CARB, the SCAG, and the EPA. The AQMP's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2016 RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project is subject to the SCAQMD's AQMP.

Criteria for determining consistency with the AQMP are defined by the following indicators:

- **Consistency Criterion No. 1**: A proposed project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of the AQMP's air quality standards or the interim emissions reductions.
- **Consistency Criterion No. 2**: A proposed project would not exceed the AQMP's assumptions or increments based on the years of the project build-out phase.

Consistency Criterion No. 1 refers to the CAAQS and NAAQS. As shown in Table 8 and Table 9 below, the Project construction and operational emissions would be below SCAQMD's thresholds. As the Project would not generate localized construction or regional construction or operational emissions that would exceed SCAQMD thresholds of significance, the Project would not violate any air quality standards. Thus, no impact is expected, and the Project would be consistent with the first criterion.

Consistency Criterion No. 2 refers to SCAG's growth forecasts and associated assumptions included in the AQMP. The future air quality levels projected in the AQMP are based on SCAG's growth projections, which are based, in part, on the general plans of cities located within the SCAG region. Therefore, projects that are consistent with the applicable assumptions used in the development of the AQMP would not

jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Concerning Consistency Criterion No. 2, the AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. Therefore, it is reasonable to conclude that if a project is consistent with the applicable general plan land use designation, and if the general plan was adopted prior to the applicable AQMP, then the increase in vehicle miles traveled (VMT) and/or population generated by said project would be consistent with the AQMP's assumed VMT and population growth.

The 5.63-acre Project site is designated Industrial with a Mixed-Use Overlay. The Mixed-Use Overlay permits residential development on selected areas designated for commercial and industrial land uses. For lots greater than 1.0 AC, the maximum allowed intensity and density (stepped density) within the Mixed Use Overlay designation are a floor-area ratio (FAR) of 0.5 and 30 DU/AC. Based on a 5.63-acre site and 30 DU/AC, the Project site's maximum residential development capacity is 170 DU, based on the current Mixed-Use Overlay designation. The Project proposes 114 DU at a density of 20.25 DU/acre, which would not exceed the site's maximum allowable density of 30 DU/AC and maximum residential development capacity of 170 DU, based on the current Mixed-Use Overlay designation. Thus, the Project would not increase growth beyond the AQMP's projections. It is also noted, the Project proposes a General Plan Amendment to change the site's land use designation from Industrial with a MUO to High Density Residential, which allows 30 DU/AC for lots greater than 1.0 acre. Thus, the Project would not exceed the site's maximum allowable density of 30 DU/AC and maximum residential development capacity of 170 DU, based on the proposed High Density Residential designation. Therefore, the Project would be consistent with this criterion and impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

Threshold 5.2 Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction Emissions

Project construction activities would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the Project area include ozone-precursor pollutants (i.e., ROG and NO_x) and PM_{10} and $PM_{2.5}$. Construction-generated emissions are short term and temporary, lasting only while construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Construction results in the temporary generation of emissions resulting from site grading, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

The duration of construction activities associated with the proposed Project are estimated to last approximately 16 months. The Project's construction-related emissions were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Project demolition, site preparation, and grading are anticipated to begin in the Fall of 2019. Building construction was estimated to begin end of 2019 and last almost a full year to end of 2020. Paving and Architectural Coating were modeled to be completed by January 2021. The exact construction timeline is unknown, however to be conservative, earlier dates were utilized in the modeling. This approach is conservative given that emissions factors decrease in future years due to regulatory and technological improvements and fleet turnover. See Appendix A: Air Quality Data for additional information regarding the construction assumptions used in this analysis.

The Project's predicted maximum daily construction-related emissions are summarized in Table 8: Construction-Related Emissions. As shown in Table 8, all criteria pollutant emissions would remain below their respective thresholds. While impacts would be considered less than significant, the proposed Project would be subject to compliance with SCAQMD Rules 402, 403, and 1113, described in the *Regulatory Setting – Regional* section above, to further reduce specific construction-related emissions. The proposed Project emissions would not worsen ambient air quality, create additional violations of federal and state standards, or delay SCAB's goal for meeting attainment standards.

Table 8: Construction-Related Emissions (Maximum Pounds Per Day)

Construction Year	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_x)	Carbon Monoxide (CO)	Sulfur Dioxide (SO_2)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
2019	4.43	45.65	24.39	0.06	10.46	4.66
2020	5.09	34.09	24.79	0.05	11.43	4.35
2021	4.79	21.72	24.00	0.05	2.64	1.43
SCAQMD Threshold	*75*	*100*	*550*	*150*	*55*	*150*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: SCAQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. No mitigation was applied to construction equipment. Refer to Appendix A for Model Data Outputs.

Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.

Operational Emissions

The Project's operational emissions would be associated with motor vehicle use and area sources. Area sources include natural gas for space and water heating, gasoline-powered landscaping and maintenance equipment, consumer products (such as household cleaners). Mobile sources emissions are generated from vehicle operations associated with Project operations. Typically, area sources are small sources that contribute very little emissions individually, but when combined may generate substantial amounts of pollutants. Area specific defaults in CalEEMod were used to calculate area source emissions.

CalEEMod was also used to calculate pollutants emissions from vehicular trips generated from the proposed Project. CalEEMod default inputs, vehicle mix, and trip distances, were unaltered for this analysis. CalEEMod estimated emissions from Project operations are summarized in Table 9: Operational Emissions. Note that emissions rates differ from summer to winter because weather factors are

dependent on the season and these factors affect pollutant mixing, dispersion, ozone formation, and other factors.

Table 9: Operational Emissions (Maximum Pounds Per Day)

Source	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_x)	Carbon Monoxide (CO)	Sulfur Dioxide (SO_2)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Summer Emissions						
Area Source Emissions	2.75	0.11	9.43	0.001	0.05	0.05
Energy Emissions	0.03	0.28	0.12	0.002	0.02	0.02
Mobile Emissions	1.24	5.80	16.80	0.06	0.05	1.27
Total Emissions	**4.02**	**6.19**	**26.35**	**0.06**	**0.12**	**1.34**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions						
Area Source Emissions	2.75	0.11	9.43	0.001	0.05	0.05
Energy Emissions	0.03	0.28	0.12	0.002	0.02	0.02
Mobile Emissions	1.20	5.95	15.96	0.06	4.61	1.27
Total Emissions	**3.99**	**6.34**	**25.51**	**0.06**	**4.69**	**1.34**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.

As shown in Table 9**,** emission calculations generated from CalEEMod demonstrate that Project operations would not exceed the SCAQMD thresholds for any criteria air pollutants. Therefore, impacts associated with Project operations would be less than significant. Additionally, the Project is a higher density residential infill development with various features that create a walkable space with 48,727 SF of common open space and 21,279 SF of private open space (patios and balconies). These project features would reduce vehicle miles traveled, which would further reduce mobile source emissions below what is shown in Table 9.

Area Source Emissions

Area source emissions would be generated due to consumer products, architectural coating, hearths, and landscaping that were previously not present on the site. As shown in Table 9, the Project's unmitigated area source emissions would not exceed SCAQMD thresholds for either the winter or summer seasons. Therefore, mitigation measures are not required, and a less than significant impact is anticipated.

Energy Source Emissions

Energy source emissions would be generated due to the Project's electricity and natural gas usage. The Project's primary uses of electricity and natural gas would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. As shown in Table 9, the Project's unmitigated energy source emissions would not exceed SCAQMD thresholds for criteria pollutants. As such, the Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation. Therefore, the Project's operational air quality impacts would be less than significant.

Mobile Source

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern. NO_X and ROG react with sunlight to form O_3, known as photochemical smog. Additionally, wind currents readily transport PM_{10} and $PM_{2.5}$. However, CO tends to be a localized pollutant, dispersing rapidly at the source.

Project-generated vehicle emissions have been estimated using CalEEMod, as recommended by the SCAQMD. The Project's trip generation estimates were based on the standard Institute of Transportation Engineers (ITE) trip generation rates. Based on the ITE trip generation rates, the proposed Project would generate 620 average daily trips (ADT).[4] This trip generation estimate is conservative given trip credits for the existing land uses that would be displaced have not been applied. When trip credits for the existing trucking warehouse are applied to the Project's trip generation estimates, the Project's net new trips would be offset, with proportionate offsets in mobile source emissions. Notwithstanding, for a conservative approach, this analysis assumes a traffic increase of 620 ADT. As shown in Table 9, mobile source emissions would not exceed SCAQMD thresholds for criteria pollutants. Therefore, the Project's air quality impacts associated with mobile source emissions would be less than significant.

Cumulative Short-Term Emissions

SCAB is designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards and nonattainment for O_3 and $PM_{2.5}$ for Federal standards. As discussed above, the Project's construction-related emissions by themselves would not exceed the SCAQMD significance thresholds for criteria pollutants.

Since these thresholds indicate whether individual Project emissions have the potential to affect cumulative regional air quality, it can be expected that the Project-related construction emissions would not be cumulatively considerable. The SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to the federal Clean Air Act mandates. The analysis assumed fugitive dust controls would be utilized during construction, including frequent water applications. SCAQMD rules, mandates, and compliance with adopted AQMP emissions control measures would also be imposed on construction projects throughout SCAB, which would include related cumulative projects. As concluded above, the Project's construction-related impacts would be less than significant. Compliance with SCAQMD rules and regulations would further minimize the proposed Project's construction-related emissions. Therefore, Project-related construction emissions, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. The Project's construction-related emissions would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Cumulative Long-Term Impacts

The SCAQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, individual project emissions contribute to existing cumulatively significant adverse air quality impacts. The SCAQMD developed the operational thresholds of significance based on the level above which individual project emissions would result in a cumulatively considerable contribution to SCAB's existing air quality conditions. Therefore, a

[4] Kimley-Horn & Associates, *Melia 178th Street Townhomes Project – Trip Generation Analysis*, May 2019.

project that exceeds the SCAQMD operational thresholds would also be a cumulatively considerable contribution to a significant cumulative impact.

As shown in Table 9, the Project's operational emissions would not exceed SCAQMD thresholds. As a result, the Project's operational emissions would not result in a cumulatively considerable contribution to significant cumulative air quality impacts. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Project operations would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

Threshold 5.3 Would the Project expose sensitive receptors to substantial pollutant concentrations?

Localized Construction Significance Analysis

The nearest sensitive receptors to the Project site are the mobile home residences adjacent to the Project property line, located approximately 10 feet (3 meters) to the west. To identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific emissions.

Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, Table 10: Equipment-Specific Grading Rates, is used to determine the maximum daily disturbed acreage for comparison to LSTs. The appropriate SRA for the localized significance thresholds is the Southwest Coastal LA County area (SRA 3), since this area includes the Project site. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects that disturb areas less than or equal to 5.0 acres. Project construction is anticipated to disturb a maximum of 3.5 acres in a single day.

Table 10: Equipment-Specific Grading Rates

Construction Phase	Equipment Type	Equipment Quantity	Acres Graded per 8-Hour Day	Operating Hours per Day	Acres Graded per Day
Site Preparation	Rubber Tired Dozers	3	0.5	8	1.5
	Tractors/Loaders/Backhoes	4	0.5	8	2.0
				Total Acres Graded per Day	**3.5**

Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.

The SCAQMD's methodology states that "off-site mobile emissions from the project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered. The nearest sensitive receptors to the Project site are the mobile home residences located approximately 10 feet (3 meters) to the west. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Therefore, as recommended by the SCAQMD, LSTs for receptors located at 25 meters

were utilized in this analysis for receptors closer than 25 meters. Table 11: Localized Significance of Construction Emissions, presents the results of localized emissions during Project construction.

Table 11 shows that the emissions of these pollutants on the peak day of Project construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the Project would result in a less than significant impact concerning LSTs during construction activities.

Table 11: Localized Significance of Construction Emissions (Maximum Pounds Per Day)

Construction Activity	Nitrogen Oxide (NO_x)	Carbon Monoxide (CO)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Demolition (2019)	35.78	22.06	4.0	2.0
Site Preparation (2019)	45.57	22.06	6.19	4.61
Grading (2019)	28.35	16.29	9.87	3.93
Grading (2020)	26.39	16.05	9.74	3.82
Building Construction (2020)	19.19	16.85	1.12	1.05
Building Construction (2021)	17.43	16.58	0.96	0.90
Paving (2020)	11.80	12.28	0.65	0.60
Architectural Coating (2020)	1.68	1.83	0.11	0.11
SCAQMD Localized Screening Threshold (adjusted for 3.5 acre at 25 meters)	*130*	*984.7*	*10.4*	*5*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.

Localized Operational Significance Analysis

LSTs for receptors located at 25 meters for SRA 3 were utilized in this analysis. The Project site is 5.63-acres, the 5-acre threshold was conservatively used for the Project. The on-site operational emissions are compared to the LST thresholds in Table 12: Localized Significance of Operational Emissions. Table 12 shows that the maximum daily emissions of these pollutants during Project operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the Project would result in a less than significant impact concerning LSTs during operational activities.

Table 12: Localized Significance of Operational Emissions (Maximum Pounds Per Day)

Activity	Nitrogen Oxide (NO_x)	Carbon Monoxide (CO)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
On-Site Emissions (Area Sources)	0.11	9.43	0.05	0.05
SCAQMD Localized Screening Threshold (5 acres at 25 meters)	*197*	*1,823*	*4*	*2*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.

The proposed Project would not involve the use, storage, or processing of carcinogenic or non-carcinogenic toxic air contaminants, and no significant toxic airborne emissions would result from operation of the proposed Project. Construction activities are subject to the regulations and laws relating to toxic air pollutants at the regional, State, and federal level that would protect sensitive receptors from

substantial concentrations of these emissions. Therefore, impacts associated with the release of toxic air contaminants would be less than significant.

Criteria Pollutant Health Impacts

On December 24, 2018, the California Supreme Court issued an opinion identifying the need to provide sufficient information connecting a project's air emissions to health impacts or explain why such information could not be ascertained (Sierra Club v. County of Fresno [Friant Ranch, L.P.] [2018] Cal.5th, Case No. S219783). The SCAQMD has set its CEQA significance thresholds based on the FCAA, which defines a major stationary source (in extreme ozone nonattainment areas such as the South Coast Air Basin) as emitting 10 tons per year. The thresholds correlate with the trigger levels for the federal New Source Review (NSR) Program and SCAQMD Rule 1303 for new or modified sources. The NSR Program[5] was created by the FCAA to ensure that stationary sources of air pollution are constructed or modified in a manner that is consistent with attainment of health-based federal ambient air quality standards. The federal ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Therefore, projects that do not exceed the SCAQMD's mass emissions thresholds would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and no criteria pollutant health impacts.

NO_X and ROG are precursor emissions that form ozone in the atmosphere in the presence of sunlight where the pollutants undergo complex chemical reactions. It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. Breathing ground-level ozone can result health effects that include: reduced lung function, inflammation of airways, throat irritation, pain, burning, or discomfort in the chest when taking a deep breath, chest tightness, wheezing, or shortness of breath. In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.

According the SCAQMD's 2016 AQMP, ozone, NO_X, and ROG have been decreasing in the Basin since 1975 and are projected to continue to decrease in the future. Although vehicle miles traveled in the Basin continue to increase, NO_X and ROG levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to the use of cleaner fuels and renewable energy. The 2016 AQMP demonstrates how the SCAQMD's control strategy to meet the 8-hour ozone standard in 2023 would lead to sufficient NO_X emission reductions to attain the 1-hour ozone standard by 2022. In addition, since NO_X emissions also lead to the formation of $PM_{2.5}$, the NO_X reductions needed to meet the ozone standards will likewise lead to improvement of $PM_{2.5}$ levels and attainment of $PM_{2.5}$ standards.

The SCAQMD's air quality modeling demonstrates that NO_X reductions prove to be much more effective in reducing ozone levels and will also lead to significant improvement in $PM_{2.5}$ concentrations. NO_X-emitting stationary sources regulated by the SCAQMD include Regional Clean Air Incentives Market (RECLAIM) facilities (e.g., refineries, power plants, etc.), natural gas combustion equipment (e.g., boilers,

[5] Code of Federal Regulation (CFR) [i.e., PSD (40 CFR 52.21, 40 CFR 51.166, 40 CFR 51.165 (b)), Non-attainment NSR (40 CFR 52.24, 40 CFR 51.165, 40 CFR part 51, Appendix S)

heaters, engines, burners, flares) and other combustion sources that burn wood or propane. The 2016 AQMP identifies robust NO_X reductions from new regulations on RECLAIM facilities, non-refinery flares, commercial cooking, and residential and commercial appliances. Such combustion sources are already heavily regulated with the lowest NO_X emissions levels achievable but there are opportunities to require and accelerate replacement with cleaner zero-emission alternatives, such as residential and commercial furnaces, pool heaters, and backup power equipment. The AQMD plans to achieve such replacements through a combination of regulations and incentives. Technology-forcing regulations can drive development and commercialization of clean technologies, with future year requirements for new or existing equipment. Incentives can then accelerate deployment and enhance public acceptability of new technologies.

The 2016 AQMD also emphasizes that beginning in 2012, continued implementation of previously adopted regulations will lead to NO_X emission reductions of 68 percent by 2023 and 80 percent by 2031. With the addition of 2016 AQMP proposed regulatory measures, a 30 percent reduction of NO_X from stationary sources is expected in the 15-year period between 2008 and 2023. This is in addition to significant NO_X reductions from stationary sources achieved in the decades prior to 2008.

As previously discussed, Project emissions would be less than significant and would not exceed SCAQMD thresholds (refer to Table 8 and Table 9). Localized effects of on-site Project emissions on nearby receptors were also found to be less than significant (refer to Table 11 and Table 12). The LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS. The LSTs were developed by the SCAQMD based on the ambient concentrations of that pollutant for each SRA and distance to the nearest sensitive receptor. The ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect public health, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. As shown above, Project-related emissions would not exceed the regional thresholds or the LSTs, and therefore would not exceed the ambient air quality standards or cause an increase in the frequency or severity of existing violations of air quality standards. Therefore, sensitive receptors would not be exposed to criteria pollutant levels in excess of the health-based ambient air quality standards.

Carbon Monoxide Hotspots

An analysis of CO "hot spots" is needed to determine whether the change in the level of service of an intersection resulting from the proposed Project would have the potential to result in exceedances of the CAAQS or NAAQS. It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when vehicles are idling at intersections. Vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The 2016 AQMP is the most recent version that addresses CO concentrations. As part of the SCAQMD *CO Hotspot Analysis*, the Wilshire Boulevard/Veteran Avenue intersection, one of the most congested intersections in Southern California with approximately 100,000 ADT, was modeled for CO concentrations. This modeling effort identified a CO concentration high of 4.6

ppm, which is well below the 35-ppm Federal standard. The proposed Project would not produce the volume of traffic required to generate a CO hot spot in the context of SCAQMD's *CO Hotspot Analysis*. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection even as it accommodates 100,000 ADT, it can be reasonably inferred that CO hotspots would not be experienced at any Project area intersections from the 620 ADT attributable to the Project. Therefore, impacts would be less than significant.

Construction-Related Diesel Particulate Matter

Project construction would generate DPM emissions from the use of off-road diesel equipment required. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer.

The use of diesel-powered construction equipment would be temporary and episodic. The duration of exposure would be short and exhaust from construction equipment would dissipate rapidly. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. The closest sensitive receptors to the Project site are located approximately 10 feet from the property boundary, and further from the major Project construction areas.

California Office of Environmental Health Hazard Assessment has not identified short-term health effects from DPM. Construction is temporary and would be transient throughout the site (i.e., move from location to location) and would not generate emissions in a fixed location for extended periods of time. Construction activities would be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than five minutes to further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. Additionally, it is noted that the proposed Project would replace an existing trucking warehouse, which uses diesel vehicles (TAC sources) that idle on- and off-site. With Project implementation TAC emissions from the existing trucking warehouse would no longer occur. For these reasons, DPM generated by Project construction activities, in and of itself, would not expose sensitive receptors to substantial amounts of air toxics and the Project would result in a less than significant impact.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

Threshold 5.4 Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Construction

Odors that could be generated by construction activities are required to follow SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. SCAQMD Rule 402, Nuisance, states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort,*

> *repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*

During construction, emissions from construction equipment, such as diesel exhaust, and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be temporary, are not expected to affect a substantial number of people and would disperse rapidly. Therefore, impacts related to odors associated with the Project's construction-related activities would be less than significant.

Operational

The SCAQMD *CEQA Air Quality Handbook* identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Project proposes development of residential uses, which would not involve the types of uses that would emit objectionable odors affecting substantial numbers of people. The proposed Project would not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, the proposed Project would not create objectionable odors.

Mitigation Measures: No mitigation is required.

Level of Significance: No impact.

CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

Cumulative Setting

The cumulative setting for air quality includes the City of Gardena and SCAB. SCAB is designated as a nonattainment area for state standards of ozone, PM_{10}, and $PM_{2.5}$. SCAB is designated as a nonattainment area for federal standards of ozone and $PM_{2.5,}$ attainment and serious maintenance for federal PM_{10} standards, and is designated as unclassified or attainment for all other pollutants. Cumulative growth in population and vehicle use could inhibit efforts to improve regional air quality and attain the ambient air quality standards.

Cumulative Impacts and Mitigation Measures

The SCAQMD's approach to assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with requirements of the FCAA and CCAA. As discussed above, the proposed Project would be consistent with the AQMP, which is intended to bring SCAB into attainment for all criteria pollutants. Since the Project's estimated construction and operational emissions would not exceed the applicable SCAQMD daily significance thresholds that are designed to assist the region in attaining both NAAQS and CAAQS, cumulative impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

6 REFERENCES

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7. Federal Highway Administration*, Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents,* 2016.
8. Kimley-Horn & Associates, *Melia 178th Street Townhomes Project - Trip Generation Analysis,* May*,* 2019.
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11. South Coast Air Quality Management District, *Air Quality Management Plan,* 2016.
12. South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.
13. South Coast Air Quality Management District, *Localized Significance Threshold Methodology*, 2009.
14. Summa Architecture, *Site Plan*, November 2018.
15. United States Environmental Protection Agency, *National Ambient Air Quality Standards Table*, 2016.
16. United States Environmental Protection Agency, *Nonattainment Areas for Criteria Pollutants*, 2018.
17. United States Environmental Protection Agency, *Policy Assessment for the Review of the Lead National Ambient Air Quality Standards*, 2013.

Appendix A

Air Quality Modeling Data

Melia 178th Street Townhomes

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	59.00	Space	0.53	23,600.00	0
City Park	1.12	Acre	1.12	48,787.20	0
Condo/Townhouse High Rise	114.00	Dwelling Unit	1.78	114,000.00	326

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per project information

Construction Phase - Per AQ/GHG Construction questionnaire

Demolition -

Grading - Per construction questionnaire

Vehicle Trips - Per project Trip Gen

Woodstoves - Per SCAQMD RUle 445

Melia 178th Street Townhomes

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	59.00	Space	0.53	23,600.00	0
City Park	1.12	Acre	1.12	48,787.20	0
Condo/Townhouse High Rise	114.00	Dwelling Unit	1.78	114,000.00	326

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per project information

Construction Phase - Per AQ/GHG Construction questionnaire

Demolition -

Grading - Per construction questionnaire

Vehicle Trips - Per project Trip Gen

Woodstoves - Per SCAQMD RUle 445

Construction Off-road Equipment Mitigation - Per SCAQMD dust control rules

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	8.00	47.00
tblConstructionPhase	NumDays	230.00	281.00
tblConstructionPhase	NumDays	18.00	59.00
tblConstructionPhase	NumDays	18.00	368.00
tblConstructionPhase	PhaseEndDate	11/4/2019	11/11/2019
tblConstructionPhase	PhaseEndDate	11/14/2019	1/15/2020
tblConstructionPhase	PhaseEndDate	10/1/2020	5/28/2021
tblConstructionPhase	PhaseEndDate	10/27/2020	4/23/2020
tblConstructionPhase	PhaseEndDate	11/20/2020	5/28/2021
tblConstructionPhase	PhaseStartDate	11/5/2019	11/12/2019
tblConstructionPhase	PhaseStartDate	11/15/2019	5/1/2020
tblConstructionPhase	PhaseStartDate	10/2/2020	2/1/2020
tblConstructionPhase	PhaseStartDate	10/28/2020	1/1/2020
tblFireplaces	NumberGas	96.90	102.60
tblFireplaces	NumberWood	5.70	0.00
tblGrading	MaterialImported	0.00	7,600.00
tblGrading	MaterialSiltContent	6.90	4.30
tblGrading	MaterialSiltContent	6.90	4.30
tblGrading	MeanVehicleSpeed	7.10	40.00

tblGrading	MeanVehicleSpeed	7.10	40.00
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	4.18	5.44
tblWoodstoves	NumberCatalytic	5.70	0.00
tblWoodstoves	NumberNoncatalytic	5.70	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.4347	45.6459	24.3899	0.0593	20.4136	2.3921	21.8356	6.3542	2.2007	7.8843	0.0000	6,019.3597	6,019.3597	1.2154	0.0000	6,049.7458
2020	5.0923	34.0910	24.7912	0.0524	21.4525	1.4067	22.8591	6.6141	1.3037	7.9178	0.0000	5,263.7625	5,263.7625	1.0858	0.0000	5,290.9063
2021	4.7916	21.7213	24.0012	0.0503	1.6515	1.0697	2.7212	0.4415	1.0112	1.4527	0.0000	4,913.2577	4,913.2577	0.7190	0.0000	4,931.2335
Maximum	**5.0923**	**45.6459**	**24.7912**	**0.0593**	**21.4525**	**2.3921**	**22.8591**	**6.6141**	**2.2007**	**7.9178**	**0.0000**	**6,019.3597**	**6,019.3597**	**1.2154**	**0.0000**	**6,049.7458**

Mitigated Construction

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

Year	lb/day										lb/day					
2019	4.4347	45.6459	24.3899	0.0593	9.0422	2.3921	10.4641	2.8015	2.2007	4.6584	0.0000	6,019.3597	6,019.3597	1.2154	0.0000	6,049.7457
2020	5.0923	34.0910	24.7912	0.0524	10.0207	1.4067	11.4273	3.0466	1.3037	4.3503	0.0000	5,263.7625	5,263.7625	1.0858	0.0000	5,290.9063
2021	4.7916	21.7213	24.0012	0.0503	1.5668	1.0697	2.6365	0.4207	1.0112	1.4319	0.0000	4,913.2577	4,913.2577	0.7190	0.0000	4,931.2334
Maximum	**5.0923**	**45.6459**	**24.7912**	**0.0593**	**10.0207**	**2.3921**	**11.4273**	**3.0466**	**2.2007**	**4.6584**	**0.0000**	**6,019.3597**	**6,019.3597**	**1.2154**	**0.0000**	**6,049.7457**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.59**	**0.00**	**48.27**	**53.25**	**0.00**	**39.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9506	1.8108	10.1560	0.0114		0.1896	0.1896		0.1896	0.1896	0.0000	2,189.6540	2,189.6540	0.0581	0.0398	2,202.9765
Energy	0.0385	0.3289	0.1400	2.1000e-003		0.0266	0.0266		0.0266	0.0266		419.8970	419.8970	8.0500e-003	7.7000e-003	422.3922
Mobile	1.2133	6.0275	16.2243	0.0560	4.6595	0.0488	4.7082	1.2470	0.0456	1.2926		5,700.9749	5,700.9749	0.3099		5,708.7229
Total	**4.2024**	**8.1673**	**26.5203**	**0.0695**	**4.6595**	**0.2650**	**4.9244**	**1.2470**	**0.2617**	**1.5087**	**0.0000**	**8,310.5259**	**8,310.5259**	**0.3761**	**0.0475**	**8,334.0916**

Mitigated Operational

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

Category	lb/day										lb/day					
Area	2.7515	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520	0.0000	16.9481	16.9481	0.0165	0.0000	17.3593
Energy	0.0325	0.2779	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225		354.7328	354.7328	6.8000e-003	6.5000e-003	356.8408
Mobile	1.2022	5.9526	15.9580	0.0550	4.5663	0.0479	4.6142	1.2221	0.0447	1.2668		5,592.6939	5,592.6939	0.3047		5,600.3119
Total	**3.9862**	**6.3393**	**25.5080**	**0.0573**	**4.5663**	**0.1223**	**4.6886**	**1.2221**	**0.1192**	**1.3412**	**0.0000**	**5,964.3749**	**5,964.3749**	**0.3280**	**6.5000e-003**	**5,974.5119**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.14**	**22.38**	**3.82**	**17.63**	**2.00**	**53.83**	**4.79**	**2.00**	**54.47**	**11.10**	**0.00**	**28.23**	**28.23**	**12.79**	**86.32**	**28.31**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/28/2019	5	20	
2	Site Preparation	Site Preparation	10/29/2019	11/11/2019	5	10	
3	Grading	Grading	11/12/2019	1/15/2020	5	47	
4	Building Construction	Building Construction	5/1/2020	5/28/2021	5	281	
5	Paving	Paving	2/1/2020	4/23/2020	5	59	
6	Architectural Coating	Architectural Coating	1/1/2020	5/28/2021	5	368	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 23.5

Acres of Paving: 0.53

Residential Indoor: 230,850; Residential Outdoor: 76,950; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	478.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	950.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	112.00	24.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1696	0.0000	5.1696	0.7827	0.0000	0.7827			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697		3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**5.1696**	**1.7949**	**6.9645**	**0.7827**	**1.6697**	**2.4524**		**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2302	7.4178	1.6662	0.0188	0.4179	0.0274	0.4452	0.1145	0.0262	0.1407		2,031.1407	2,031.1407	0.1477		2,034.8337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.3133**	**7.4788**	**2.3299**	**0.0205**	**0.5855**	**0.0288**	**0.6143**	**0.1590**	**0.0275**	**0.1865**		**2,202.4604**	**2,202.4604**	**0.1536**		**2,206.3007**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2100	0.0000	2.2100	0.3346	0.0000	0.3346			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697	0.0000	3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**2.2100**	**1.7949**	**4.0049**	**0.3346**	**1.6697**	**2.0043**	**0.0000**	**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2302	7.4178	1.6662	0.0188	0.3989	0.0274	0.4263	0.1099	0.0262	0.1361		2,031.1407	2,031.1407	0.1477		2,034.8337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.3133**	**7.4788**	**2.3299**	**0.0205**	**0.5578**	**0.0288**	**0.5866**	**0.1522**	**0.0275**	**0.1797**		**2,202.4604**	**2,202.4604**	**0.1536**		**2,206.3007**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8879	0.0000	8.8879	5.6302	0.0000	5.6302			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**8.8879**	**2.3904**	**11.2782**	**5.6302**	**2.1991**	**7.8293**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0997	0.0732	0.7965	2.0700e-003	0.2012	1.7300e-003	0.2029	0.0534	1.6000e-003	0.0550		205.5836	205.5836	7.0700e-003		205.7604
Total	**0.0997**	**0.0732**	**0.7965**	**2.0700e-003**	**0.2012**	**1.7300e-003**	**0.2029**	**0.0534**	**1.6000e-003**	**0.0550**		**205.5836**	**205.5836**	**7.0700e-003**		**205.7604**

Mitigated Construction On-Site

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

Category	lb/day										lb/day					
Fugitive Dust					3.7996	0.0000	3.7996	2.4069	0.0000	2.4069			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**3.7996**	**2.3904**	**6.1899**	**2.4069**	**2.1991**	**4.6060**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0997	0.0732	0.7965	2.0700e-003	0.1907	1.7300e-003	0.1924	0.0508	1.6000e-003	0.0524		205.5836	205.5836	7.0700e-003		205.7604
Total	**0.0997**	**0.0732**	**0.7965**	**2.0700e-003**	**0.1907**	**1.7300e-003**	**0.1924**	**0.0508**	**1.6000e-003**	**0.0524**		**205.5836**	**205.5836**	**7.0700e-003**		**205.7604**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.8109	0.0000	19.8109	6.1928	0.0000	6.1928			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856		2,936.8068	2,936.8068	0.9292		2,960.0361

Total	**2.5805**	**28.3480**	**16.2934**	**0.0297**	**19.8109**	**1.3974**	**21.2083**	**6.1928**	**1.2856**	**7.4784**		**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1947	6.2734	1.4091	0.0159	0.4351	0.0231	0.4582	0.1169	0.0221	0.1391		1,717.7813	1,717.7813	0.1249		1,720.9045
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.2778**	**6.3344**	**2.0729**	**0.0176**	**0.6027**	**0.0246**	**0.6273**	**0.1614**	**0.0235**	**0.1849**		**1,889.1009**	**1,889.1009**	**0.1308**		**1,892.3715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4692	0.0000	8.4692	2.6474	0.0000	2.6474			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361
Total	**2.5805**	**28.3480**	**16.2934**	**0.0297**	**8.4692**	**1.3974**	**9.8665**	**2.6474**	**1.2856**	**3.9330**	**0.0000**	**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1947	6.2734	1.4091	0.0159	0.4141	0.0231	0.4373	0.1118	0.0221	0.1339		1,717.7813	1,717.7813	0.1249		1,720.9045
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.2778**	**6.3344**	**2.0729**	**0.0176**	**0.5730**	**0.0246**	**0.5976**	**0.1541**	**0.0235**	**0.1776**		**1,889.1009**	**1,889.1009**	**0.1308**		**1,892.3715**

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	lb/day										lb/day					
Fugitive Dust					19.8109	0.0000	19.8109	6.1928	0.0000	6.1928			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**19.8109**	**1.2734**	**21.0843**	**6.1928**	**1.1716**	**7.3644**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Unmitigated Construction Off-Site

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

Hauling	0.1809	5.8872	1.3687	0.0157	1.2280	0.0188	1.2468	0.3116	0.0180	0.3296		1,700.0838	1,700.0838	0.1220		1,703.1344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2575**	**5.9416**	**1.9702**	**0.0174**	**1.3957**	**0.0202**	**1.4159**	**0.3560**	**0.0193**	**0.3753**		**1,866.1968**	**1,866.1968**	**0.1273**		**1,869.3784**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4692	0.0000	8.4692	2.6474	0.0000	2.6474			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**8.4692**	**1.2734**	**9.7426**	**2.6474**	**1.1716**	**3.8190**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1809	5.8872	1.3687	0.0157	1.1595	0.0188	1.1783	0.2947	0.0180	0.3128		1,700.0838	1,700.0838	0.1220		1,703.1344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1589	1.4000e-003	0.1603	0.0423	1.2900e-003	0.0436		166.1131	166.1131	5.2400e-003		166.2440

Total	**0.2575**	**5.9416**	**1.9702**	**0.0174**	**1.3184**	**0.0202**	**1.3386**	**0.3371**	**0.0193**	**0.3564**		**1,866.1968**	**1,866.1968**	**0.1273**		**1,869.3784**

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0892	2.5524	0.7377	6.0600e-003	0.1537	0.0122	0.1659	0.0442	0.0117	0.0559		646.6778	646.6778	0.0432		647.7588
Worker	0.5724	0.4060	4.4913	0.0125	1.2519	0.0105	1.2624	0.3320	9.6400e-003	0.3417		1,240.3108	1,240.3108	0.0391		1,241.2882
Total	**0.6616**	**2.9584**	**5.2290**	**0.0185**	**1.4056**	**0.0227**	**1.4282**	**0.3763**	**0.0213**	**0.3976**		**1,886.9886**	**1,886.9886**	**0.0823**		**1,889.0470**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0892	2.5524	0.7377	6.0600e-003	0.1471	0.0122	0.1593	0.0426	0.0117	0.0543		646.6778	646.6778	0.0432		647.7588
Worker	0.5724	0.4060	4.4913	0.0125	1.1866	0.0105	1.1971	0.3160	9.6400e-003	0.3256		1,240.3108	1,240.3108	0.0391		1,241.2882
Total	**0.6616**	**2.9584**	**5.2290**	**0.0185**	**1.3337**	**0.0227**	**1.3564**	**0.3586**	**0.0213**	**0.3799**		**1,886.9886**	**1,886.9886**	**0.0823**		**1,889.0470**

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	lb/day										lb/day					

Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0766	2.3253	0.6739	6.0100e-003	0.1537	4.9200e-003	0.1586	0.0442	4.7000e-003	0.0489		641.6293	641.6293	0.0414		642.6648
Worker	0.5340	0.3653	4.1245	0.0121	1.2519	0.0101	1.2620	0.3320	9.3200e-003	0.3413		1,200.9212	1,200.9212	0.0353		1,201.8047
Total	**0.6106**	**2.6906**	**4.7983**	**0.0181**	**1.4056**	**0.0150**	**1.4206**	**0.3763**	**0.0140**	**0.3903**		**1,842.5505**	**1,842.5505**	**0.0768**		**1,844.4695**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0766	2.3253	0.6739	6.0100e-003	0.1471	4.9200e-003	0.1520	0.0426	4.7000e-003	0.0473		641.6293	641.6293	0.0414		642.6648
Worker	0.5340	0.3653	4.1245	0.0121	1.1866	0.0101	1.1967	0.3160	9.3200e-003	0.3253		1,200.9212	1,200.9212	0.0353		1,201.8047
Total	**0.6106**	**2.6906**	**4.7983**	**0.0181**	**1.3337**	**0.0150**	**1.3487**	**0.3586**	**0.0140**	**0.3726**		**1,842.5505**	**1,842.5505**	**0.0768**		**1,844.4695**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0235					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2073**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1022	0.0725	0.8020	2.2200e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		221.4841	221.4841	6.9800e-003		221.6586
Total	**0.1022**	**0.0725**	**0.8020**	**2.2200e-003**	**0.2236**	**1.8700e-003**	**0.2254**	**0.0593**	**1.7200e-003**	**0.0610**		**221.4841**	**221.4841**	**6.9800e-003**		**221.6586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0235					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2073**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Mitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1022	0.0725	0.8020	2.2200e-003	0.2119	1.8700e-003	0.2138	0.0564	1.7200e-003	0.0582		221.4841	221.4841	6.9800e-003		221.6586
Total	**0.1022**	**0.0725**	**0.8020**	**2.2200e-003**	**0.2119**	**1.8700e-003**	**0.2138**	**0.0564**	**1.7200e-003**	**0.0582**		**221.4841**	**221.4841**	**6.9800e-003**		**221.6586**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**2.1984**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0797	0.8822	2.4500e-003	0.2459	2.0600e-003	0.2480	0.0652	1.8900e-003	0.0671		243.6325	243.6325	7.6800e-003		243.8245
Total	**0.1124**	**0.0797**	**0.8822**	**2.4500e-003**	**0.2459**	**2.0600e-003**	**0.2480**	**0.0652**	**1.8900e-003**	**0.0671**		**243.6325**	**243.6325**	**7.6800e-003**		**243.8245**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**2.1984**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0797	0.8822	2.4500e-003	0.2331	2.0600e-003	0.2351	0.0621	1.8900e-003	0.0640		243.6325	243.6325	7.6800e-003		243.8245
Total	**0.1124**	**0.0797**	**0.8822**	**2.4500e-003**	**0.2331**	**2.0600e-003**	**0.2351**	**0.0621**	**1.8900e-003**	**0.0640**		**243.6325**	**243.6325**	**7.6800e-003**		**243.8245**

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	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**2.1751**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1049	0.0718	0.8102	2.3700e-003	0.2459	1.9900e-003	0.2479	0.0652	1.8300e-003	0.0671		235.8952	235.8952	6.9400e-003		236.0688
Total	**0.1049**	**0.0718**	**0.8102**	**2.3700e-003**	**0.2459**	**1.9900e-003**	**0.2479**	**0.0652**	**1.8300e-003**	**0.0671**		**235.8952**	**235.8952**	**6.9400e-003**		**236.0688**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**2.1751**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1049	0.0718	0.8102	2.3700e-003	0.2331	1.9900e-003	0.2351	0.0621	1.8300e-003	0.0639		235.8952	235.8952	6.9400e-003		236.0688
Total	**0.1049**	**0.0718**	**0.8102**	**2.3700e-003**	**0.2331**	**1.9900e-003**	**0.2351**	**0.0621**	**1.8300e-003**	**0.0639**		**235.8952**	**235.8952**	**6.9400e-003**		**236.0688**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2022	5.9526	15.9580	0.0550	4.5663	0.0479	4.6142	1.2221	0.0447	1.2668		5,592.6939	5,592.6939	0.3047		5,600.3119

Unmitigated	1.2133	6.0275	16.2243	0.0560	4.6595	0.0488	4.7082	1.2470	0.0456	1.2926		5,700.9749	5,700.9749	0.3099		5,708.7229

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	25.48	18.75	18,181	17,818
Condo/Townhouse High Rise	620.16	491.34	391.02	1,943,261	1,904,396
Parking Lot	0.00	0.00	0.00		
Total	620.16	516.82	409.77	1,961,443	1,922,214

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Condo/Townhouse High Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	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
City Park	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Condo/Townhouse High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Parking Lot	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0325	0.2779	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225		354.7328	354.7328	6.8000e-003	6.5000e-003	356.8408
NaturalGas Unmitigated	0.0385	0.3289	0.1400	2.1000e-003		0.0266	0.0266		0.0266	0.0266		419.8970	419.8970	8.0500e-003	7.7000e-003	422.3922

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse High Rise	3569.12	0.0385	0.3289	0.1400	2.1000e-003		0.0266	0.0266		0.0266	0.0266		419.8970	419.8970	8.0500e-003	7.7000e-003	422.3922
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0385**	**0.3289**	**0.1400**	**2.1000e-003**		**0.0266**	**0.0266**		**0.0266**	**0.0266**		**419.8970**	**419.8970**	**8.0500e-003**	**7.7000e-003**	**422.3922**

Mitigated

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

City Park	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
Condo/Townhouse High Rise	3.01523	0.0325	0.2779	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225		354.7328	354.7328	6.8000e-003	6.5000e-003	356.8408
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0325**	**0.2779**	**0.1182**	**1.7700e-003**		**0.0225**	**0.0225**		**0.0225**	**0.0225**		**354.7328**	**354.7328**	**6.8000e-003**	**6.5000e-003**	**356.8408**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7515	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520	0.0000	16.9481	16.9481	0.0165	0.0000	17.3593
Unmitigated	2.9506	1.8108	10.1560	0.0114		0.1896	0.1896		0.1896	0.1896	0.0000	2,189.6540	2,189.6540	0.0581	0.0398	2,202.9765

6.2 Area by SubCategory

Unmitigated

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

Architectural Coating	0.1972					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2681					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1992	1.7020	0.7242	0.0109		0.1376	0.1376		0.1376	0.1376	0.0000	2,172.7059	2,172.7059	0.0416	0.0398	2,185.6172
Landscaping	0.2862	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520		16.9481	16.9481	0.0165		17.3593
Total	**2.9506**	**1.8108**	**10.1560**	**0.0114**		**0.1896**	**0.1896**		**0.1896**	**0.1896**	**0.0000**	**2,189.6540**	**2,189.6540**	**0.0581**	**0.0398**	**2,202.9765**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1972					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2681					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2862	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520		16.9481	16.9481	0.0165		17.3593
Total	**2.7515**	**0.1089**	**9.4317**	**5.0000e-004**		**0.0520**	**0.0520**		**0.0520**	**0.0520**	**0.0000**	**16.9481**	**16.9481**	**0.0165**	**0.0000**	**17.3593**

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Construction Off-road Equipment Mitigation - Per SCAQMD dust control rules

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	8.00	47.00
tblConstructionPhase	NumDays	230.00	281.00
tblConstructionPhase	NumDays	18.00	59.00
tblConstructionPhase	NumDays	18.00	368.00
tblConstructionPhase	PhaseEndDate	11/4/2019	11/11/2019
tblConstructionPhase	PhaseEndDate	11/14/2019	1/15/2020
tblConstructionPhase	PhaseEndDate	10/1/2020	5/28/2021
tblConstructionPhase	PhaseEndDate	10/27/2020	4/23/2020
tblConstructionPhase	PhaseEndDate	11/20/2020	5/28/2021
tblConstructionPhase	PhaseStartDate	11/5/2019	11/12/2019
tblConstructionPhase	PhaseStartDate	11/15/2019	5/1/2020
tblConstructionPhase	PhaseStartDate	10/2/2020	2/1/2020
tblConstructionPhase	PhaseStartDate	10/28/2020	1/1/2020
tblFireplaces	NumberGas	96.90	102.60
tblFireplaces	NumberWood	5.70	0.00
tblGrading	MaterialImported	0.00	7,600.00
tblGrading	MaterialSiltContent	6.90	4.30
tblGrading	MaterialSiltContent	6.90	4.30
tblGrading	MeanVehicleSpeed	7.10	40.00

tblGrading	MeanVehicleSpeed	7.10	40.00
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	4.18	5.44
tblWoodstoves	NumberCatalytic	5.70	0.00
tblWoodstoves	NumberNoncatalytic	5.70	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.4249	45.6388	24.3440	0.0597	20.4136	2.3921	21.8352	6.3542	2.2007	7.8843	0.0000	6,065.0254	6,065.0254	1.2104	0.0000	6,095.2847
2020	5.0203	34.0028	25.2159	0.0530	21.4525	1.4064	22.8589	6.6141	1.3034	7.9175	0.0000	5,318.9678	5,318.9678	1.0823	0.0000	5,346.0247
2021	4.7234	21.6839	24.3991	0.0514	1.6515	1.0696	2.7211	0.4415	1.0111	1.4526	0.0000	5,020.4771	5,020.4771	0.7192	0.0000	5,038.4560
Maximum	**5.0203**	**45.6388**	**25.2159**	**0.0597**	**21.4525**	**2.3921**	**22.8589**	**6.6141**	**2.2007**	**7.9175**	**0.0000**	**6,065.0254**	**6,065.0254**	**1.2104**	**0.0000**	**6,095.2847**

Mitigated Construction

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

Year	lb/day										lb/day					
2019	4.4249	45.6388	24.3440	0.0597	9.0422	2.3921	10.4637	2.8015	2.2007	4.6584	0.0000	6,065.0254	6,065.0254	1.2104	0.0000	6,095.2847
2020	5.0203	34.0028	25.2159	0.0530	10.0207	1.4064	11.4270	3.0466	1.3034	4.3500	0.0000	5,318.9678	5,318.9678	1.0823	0.0000	5,346.0247
2021	4.7234	21.6839	24.3991	0.0514	1.5668	1.0696	2.6364	0.4207	1.0111	1.4318	0.0000	5,020.4771	5,020.4771	0.7192	0.0000	5,038.4560
Maximum	**5.0203**	**45.6388**	**25.2159**	**0.0597**	**10.0207**	**2.3921**	**11.4270**	**3.0466**	**2.2007**	**4.6584**	**0.0000**	**6,065.0254**	**6,065.0254**	**1.2104**	**0.0000**	**6,095.2847**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.59**	**0.00**	**48.27**	**53.25**	**0.00**	**39.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9506	1.8108	10.1560	0.0114		0.1896	0.1896		0.1896	0.1896	0.0000	2,189.6540	2,189.6540	0.0581	0.0398	2,202.9765
Energy	0.0385	0.3289	0.1400	2.1000e-003		0.0266	0.0266		0.0266	0.0266		419.8970	419.8970	8.0500e-003	7.7000e-003	422.3922
Mobile	1.2486	5.8734	17.0935	0.0589	4.6595	0.0485	4.7080	1.2470	0.0453	1.2923		5,990.9883	5,990.9883	0.3113		5,998.7700
Total	**4.2377**	**8.0131**	**27.3894**	**0.0724**	**4.6595**	**0.2647**	**4.9242**	**1.2470**	**0.2615**	**1.5085**	**0.0000**	**8,600.5393**	**8,600.5393**	**0.3774**	**0.0475**	**8,624.1387**

Mitigated Operational

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

Category	lb/day										lb/day					
Area	2.7515	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520	0.0000	16.9481	16.9481	0.0165	0.0000	17.3593
Energy	0.0325	0.2779	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225		354.7328	354.7328	6.8000e-003	6.5000e-003	356.8408
Mobile	1.2373	5.8026	16.7999	0.0578	4.5663	0.0476	4.6139	1.2221	0.0445	1.2665		5,877.4878	5,877.4878	0.3059		5,885.1359
Total	**4.0212**	**6.1893**	**26.3499**	**0.0601**	**4.5663**	**0.1221**	**4.6884**	**1.2221**	**0.1189**	**1.3410**	**0.0000**	**6,249.1687**	**6,249.1687**	**0.3292**	**6.5000e-003**	**6,259.3360**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.11**	**22.76**	**3.80**	**17.01**	**2.00**	**53.88**	**4.79**	**2.00**	**54.52**	**11.10**	**0.00**	**27.34**	**27.34**	**12.78**	**86.32**	**27.42**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/28/2019	5	20	
2	Site Preparation	Site Preparation	10/29/2019	11/11/2019	5	10	
3	Grading	Grading	11/12/2019	1/15/2020	5	47	
4	Building Construction	Building Construction	5/1/2020	5/28/2021	5	281	
5	Paving	Paving	2/1/2020	4/23/2020	5	59	
6	Architectural Coating	Architectural Coating	1/1/2020	5/28/2021	5	368	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 23.5

Acres of Paving: 0.53

Residential Indoor: 230,850; Residential Outdoor: 76,950; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	478.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	950.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	112.00	24.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1696	0.0000	5.1696	0.7827	0.0000	0.7827			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697		3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**5.1696**	**1.7949**	**6.9645**	**0.7827**	**1.6697**	**2.4524**		**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2246	7.3202	1.5607	0.0191	0.4179	0.0269	0.4447	0.1145	0.0257	0.1402		2,066.1831	2,066.1831	0.1423		2,069.7405
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.2995**	**7.3752**	**2.2840**	**0.0209**	**0.5855**	**0.0283**	**0.6138**	**0.1590**	**0.0270**	**0.1860**		**2,248.1260**	**2,248.1260**	**0.1486**		**2,251.8397**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2100	0.0000	2.2100	0.3346	0.0000	0.3346			0.0000			0.0000
Off-Road	3.5134	35.7830	22.0600	0.0388		1.7949	1.7949		1.6697	1.6697	0.0000	3,816.8994	3,816.8994	1.0618		3,843.4451
Total	**3.5134**	**35.7830**	**22.0600**	**0.0388**	**2.2100**	**1.7949**	**4.0049**	**0.3346**	**1.6697**	**2.0043**	**0.0000**	**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2246	7.3202	1.5607	0.0191	0.3989	0.0269	0.4258	0.1099	0.0257	0.1356		2,066.1831	2,066.1831	0.1423		2,069.7405
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.2995**	**7.3752**	**2.2840**	**0.0209**	**0.5578**	**0.0283**	**0.5861**	**0.1522**	**0.0270**	**0.1792**		**2,248.1260**	**2,248.1260**	**0.1486**		**2,251.8397**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8879	0.0000	8.8879	5.6302	0.0000	5.6302			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**8.8879**	**2.3904**	**11.2782**	**5.6302**	**2.1991**	**7.8293**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0899	0.0661	0.8679	2.1900e-003	0.2012	1.7300e-003	0.2029	0.0534	1.6000e-003	0.0550		218.3315	218.3315	7.5000e-003		218.5190
Total	**0.0899**	**0.0661**	**0.8679**	**2.1900e-003**	**0.2012**	**1.7300e-003**	**0.2029**	**0.0534**	**1.6000e-003**	**0.0550**		**218.3315**	**218.3315**	**7.5000e-003**		**218.5190**

Mitigated Construction On-Site

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

Category	lb/day										lb/day					
Fugitive Dust					3.7996	0.0000	3.7996	2.4069	0.0000	2.4069			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**3.7996**	**2.3904**	**6.1899**	**2.4069**	**2.1991**	**4.6060**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0899	0.0661	0.8679	2.1900e-003	0.1907	1.7300e-003	0.1924	0.0508	1.6000e-003	0.0524		218.3315	218.3315	7.5000e-003		218.5190
Total	**0.0899**	**0.0661**	**0.8679**	**2.1900e-003**	**0.1907**	**1.7300e-003**	**0.1924**	**0.0508**	**1.6000e-003**	**0.0524**		**218.3315**	**218.3315**	**7.5000e-003**		**218.5190**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.8109	0.0000	19.8109	6.1928	0.0000	6.1928			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856		2,936.8068	2,936.8068	0.9292		2,960.0361

Total	**2.5805**	**28.3480**	**16.2934**	**0.0297**	**19.8109**	**1.3974**	**21.2083**	**6.1928**	**1.2856**	**7.4784**		**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1899	6.1908	1.3200	0.0162	0.4351	0.0227	0.4578	0.1169	0.0217	0.1387		1,747.4174	1,747.4174	0.1203		1,750.4259
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.2649**	**6.2459**	**2.0432**	**0.0180**	**0.6027**	**0.0242**	**0.6269**	**0.1614**	**0.0231**	**0.1845**		**1,929.3603**	**1,929.3603**	**0.1266**		**1,932.5251**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4692	0.0000	8.4692	2.6474	0.0000	2.6474			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361
Total	**2.5805**	**28.3480**	**16.2934**	**0.0297**	**8.4692**	**1.3974**	**9.8665**	**2.6474**	**1.2856**	**3.9330**	**0.0000**	**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1899	6.1908	1.3200	0.0162	0.4141	0.0227	0.4368	0.1118	0.0217	0.1335		1,747.4174	1,747.4174	0.1203		1,750.4259
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.2649**	**6.2459**	**2.0432**	**0.0180**	**0.5730**	**0.0242**	**0.5972**	**0.1541**	**0.0231**	**0.1772**		**1,929.3603**	**1,929.3603**	**0.1266**		**1,932.5251**

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	lb/day										lb/day					
Fugitive Dust					19.8109	0.0000	19.8109	6.1928	0.0000	6.1928			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**19.8109**	**1.2734**	**21.0843**	**6.1928**	**1.1716**	**7.3644**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Unmitigated Construction Off-Site

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

Hauling	0.1766	5.8120	1.2879	0.0160	1.2280	0.0186	1.2466	0.3116	0.0178	0.3293		1,729.8728	1,729.8728	0.1178		1,732.8165
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.2456**	**5.8611**	**1.9447**	**0.0177**	**1.3957**	**0.0200**	**1.4156**	**0.3560**	**0.0190**	**0.3751**		**1,906.2898**	**1,906.2898**	**0.1233**		**1,909.3725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4692	0.0000	8.4692	2.6474	0.0000	2.6474			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**8.4692**	**1.2734**	**9.7426**	**2.6474**	**1.1716**	**3.8190**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1766	5.8120	1.2879	0.0160	1.1595	0.0186	1.1780	0.2947	0.0178	0.3125		1,729.8728	1,729.8728	0.1178		1,732.8165
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1589	1.4000e-003	0.1603	0.0423	1.2900e-003	0.0436		176.4169	176.4169	5.5600e-003		176.5560

Total	**0.2456**	**5.8611**	**1.9447**	**0.0177**	**1.3184**	**0.0200**	**1.3384**	**0.3371**	**0.0190**	**0.3561**		**1,906.2898**	**1,906.2898**	**0.1233**		**1,909.3725**

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0854	2.5529	0.6689	6.2300e-003	0.1537	0.0120	0.1657	0.0442	0.0115	0.0557		664.8593	664.8593	0.0406		665.8736
Worker	0.5154	0.3667	4.9039	0.0132	1.2519	0.0105	1.2624	0.3320	9.6400e-003	0.3417		1,317.2464	1,317.2464	0.0415		1,318.2847
Total	**0.6008**	**2.9196**	**5.5728**	**0.0195**	**1.4056**	**0.0225**	**1.4280**	**0.3763**	**0.0211**	**0.3974**		**1,982.1057**	**1,982.1057**	**0.0821**		**1,984.1582**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0854	2.5529	0.6689	6.2300e-003	0.1471	0.0120	0.1591	0.0426	0.0115	0.0541		664.8593	664.8593	0.0406		665.8736
Worker	0.5154	0.3667	4.9039	0.0132	1.1866	0.0105	1.1971	0.3160	9.6400e-003	0.3256		1,317.2464	1,317.2464	0.0415		1,318.2847
Total	**0.6008**	**2.9196**	**5.5728**	**0.0195**	**1.3337**	**0.0225**	**1.3562**	**0.3586**	**0.0211**	**0.3797**		**1,982.1057**	**1,982.1057**	**0.0821**		**1,984.1582**

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	lb/day										lb/day					

Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0730	2.3302	0.6092	6.1700e-003	0.1537	4.7600e-003	0.1584	0.0442	4.5600e-003	0.0488		659.7135	659.7135	0.0389		660.6852
Worker	0.4801	0.3300	4.5111	0.0128	1.2519	0.0101	1.2620	0.3320	9.3200e-003	0.3413		1,275.4222	1,275.4222	0.0376		1,276.3617
Total	**0.5530**	**2.6601**	**5.1202**	**0.0190**	**1.4056**	**0.0149**	**1.4204**	**0.3763**	**0.0139**	**0.3901**		**1,935.1358**	**1,935.1358**	**0.0765**		**1,937.0469**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0730	2.3302	0.6092	6.1700e-003	0.1471	4.7600e-003	0.1519	0.0426	4.5600e-003	0.0472		659.7135	659.7135	0.0389		660.6852
Worker	0.4801	0.3300	4.5111	0.0128	1.1866	0.0101	1.1967	0.3160	9.3200e-003	0.3253		1,275.4222	1,275.4222	0.0376		1,276.3617
Total	**0.5530**	**2.6601**	**5.1202**	**0.0190**	**1.3337**	**0.0149**	**1.3486**	**0.3586**	**0.0139**	**0.3725**		**1,935.1358**	**1,935.1358**	**0.0765**		**1,937.0469**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0235					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2073**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0655	0.8757	2.3600e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		235.2226	235.2226	7.4200e-003		235.4080
Total	**0.0920**	**0.0655**	**0.8757**	**2.3600e-003**	**0.2236**	**1.8700e-003**	**0.2254**	**0.0593**	**1.7200e-003**	**0.0610**		**235.2226**	**235.2226**	**7.4200e-003**		**235.4080**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0235					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2073**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Mitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0655	0.8757	2.3600e-003	0.2119	1.8700e-003	0.2138	0.0564	1.7200e-003	0.0582		235.2226	235.2226	7.4200e-003		235.4080
Total	**0.0920**	**0.0655**	**0.8757**	**2.3600e-003**	**0.2119**	**1.8700e-003**	**0.2138**	**0.0564**	**1.7200e-003**	**0.0582**		**235.2226**	**235.2226**	**7.4200e-003**		**235.4080**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**2.1984**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0720	0.9633	2.6000e-003	0.2459	2.0600e-003	0.2480	0.0652	1.8900e-003	0.0671		258.7448	258.7448	8.1600e-003		258.9488
Total	**0.1012**	**0.0720**	**0.9633**	**2.6000e-003**	**0.2459**	**2.0600e-003**	**0.2480**	**0.0652**	**1.8900e-003**	**0.0671**		**258.7448**	**258.7448**	**8.1600e-003**		**258.9488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**2.1984**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0720	0.9633	2.6000e-003	0.2331	2.0600e-003	0.2351	0.0621	1.8900e-003	0.0640		258.7448	258.7448	8.1600e-003		258.9488
Total	**0.1012**	**0.0720**	**0.9633**	**2.6000e-003**	**0.2331**	**2.0600e-003**	**0.2351**	**0.0621**	**1.8900e-003**	**0.0640**		**258.7448**	**258.7448**	**8.1600e-003**		**258.9488**

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	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**2.1751**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0943	0.0648	0.8861	2.5200e-003	0.2459	1.9900e-003	0.2479	0.0652	1.8300e-003	0.0671		250.5294	250.5294	7.3800e-003		250.7139
Total	**0.0943**	**0.0648**	**0.8861**	**2.5200e-003**	**0.2459**	**1.9900e-003**	**0.2479**	**0.0652**	**1.8300e-003**	**0.0671**		**250.5294**	**250.5294**	**7.3800e-003**		**250.7139**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9562					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**2.1751**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0943	0.0648	0.8861	2.5200e-003	0.2331	1.9900e-003	0.2351	0.0621	1.8300e-003	0.0639		250.5294	250.5294	7.3800e-003		250.7139
Total	**0.0943**	**0.0648**	**0.8861**	**2.5200e-003**	**0.2331**	**1.9900e-003**	**0.2351**	**0.0621**	**1.8300e-003**	**0.0639**		**250.5294**	**250.5294**	**7.3800e-003**		**250.7139**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2373	5.8026	16.7999	0.0578	4.5663	0.0476	4.6139	1.2221	0.0445	1.2665		5,877.4878	5,877.4878	0.3059		5,885.1359

Unmitigated	1.2486	5.8734	17.0935	0.0589	4.6595	0.0485	4.7080	1.2470	0.0453	1.2923		5,990.9883	5,990.9883	0.3113		5,998.7700

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	25.48	18.75	18,181	17,818
Condo/Townhouse High Rise	620.16	491.34	391.02	1,943,261	1,904,396
Parking Lot	0.00	0.00	0.00		
Total	620.16	516.82	409.77	1,961,443	1,922,214

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Condo/Townhouse High Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	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
City Park	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Condo/Townhouse High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Parking Lot	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0325	0.2779	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225		354.7328	354.7328	6.8000e-003	6.5000e-003	356.8408
NaturalGas Unmitigated	0.0385	0.3289	0.1400	2.1000e-003		0.0266	0.0266		0.0266	0.0266		419.8970	419.8970	8.0500e-003	7.7000e-003	422.3922

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse High Rise	3569.12	0.0385	0.3289	0.1400	2.1000e-003		0.0266	0.0266		0.0266	0.0266		419.8970	419.8970	8.0500e-003	7.7000e-003	422.3922
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0385**	**0.3289**	**0.1400**	**2.1000e-003**		**0.0266**	**0.0266**		**0.0266**	**0.0266**		**419.8970**	**419.8970**	**8.0500e-003**	**7.7000e-003**	**422.3922**

Mitigated

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

City Park	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
Condo/Townhouse High Rise	3.01523	0.0325	0.2779	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225		354.7328	354.7328	6.8000e-003	6.5000e-003	356.8408
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0325**	**0.2779**	**0.1182**	**1.7700e-003**		**0.0225**	**0.0225**		**0.0225**	**0.0225**		**354.7328**	**354.7328**	**6.8000e-003**	**6.5000e-003**	**356.8408**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7515	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520	0.0000	16.9481	16.9481	0.0165	0.0000	17.3593
Unmitigated	2.9506	1.8108	10.1560	0.0114		0.1896	0.1896		0.1896	0.1896	0.0000	2,189.6540	2,189.6540	0.0581	0.0398	2,202.9765

6.2 Area by SubCategory

Unmitigated

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

Architectural Coating	0.1972					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2681					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1992	1.7020	0.7242	0.0109		0.1376	0.1376		0.1376	0.1376	0.0000	2,172.7059	2,172.7059	0.0416	0.0398	2,185.6172
Landscaping	0.2862	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520		16.9481	16.9481	0.0165		17.3593
Total	**2.9506**	**1.8108**	**10.1560**	**0.0114**		**0.1896**	**0.1896**		**0.1896**	**0.1896**	**0.0000**	**2,189.6540**	**2,189.6540**	**0.0581**	**0.0398**	**2,202.9765**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1972					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2681					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2862	0.1089	9.4317	5.0000e-004		0.0520	0.0520		0.0520	0.0520		16.9481	16.9481	0.0165		17.3593
Total	**2.7515**	**0.1089**	**9.4317**	**5.0000e-004**		**0.0520**	**0.0520**		**0.0520**	**0.0520**	**0.0000**	**16.9481**	**16.9481**	**0.0165**	**0.0000**	**17.3593**

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation