APPENDIX D

AIR QUALITY MEMORANDUM

AIR QUALITY AND GREENHOUSE GAS ANALYSIS

ORANGE COUNTY TRANSPORTATION AUTHORITY

TRANSIT SECURITY AND OPERATIONS CENTER PROJECT

ANAHEIM, CALIFORNIA

LSA

August 2018

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ORANGE COUNTY TRANSPORTATION AUTHORITY

TRANSIT SECURITY AND OPERATIONS CENTER PROJECT

ANAHEIM, CALIFORNIA

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EXECUTIVE SUMMARY

LSA has prepared this Air Quality and Greenhouse Gas (GHG) Analysis for the proposed Orange County Transportation Authority (OCTA) Transit and Security Operations Center (project) in Anaheim, California. This Air Quality and GHG Analysis provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The report provides data on existing air quality and evaluates potential air quality impacts associated with the proposed project. Modeled air emissions are consistent with the trip generation estimates developed for the proposed project (*Trip Generation for Proposed Transit Security and Operations Center*, LIN Consulting June 2018).

Estimated project construction emissions, calculated with the California Emissions Estimator Model (CalEEMod; Version 2016.3.2), would not exceed the criteria pollutant thresholds established by the South Coast Air Quality Management District (SCAQMD). Compliance with SCAQMD Rules and Regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. Standard dust suppression measures have been identified for short-term construction to meet SCAQMD emission thresholds. The proposed project would also not exceed the localized significance thresholds (LSTs) for construction activities.

Estimated project operational emissions, also calculated with CalEEMod, would not exceed the SCAQMD mass daily thresholds for any criteria pollutants. Operational LSTs would not be exceeded by long-term emissions from project operation. Historical air quality data show that existing motor vehicle carbon monoxide (CO) emission levels for the project area and the general vicinity do not exceed either State or federal ambient air quality standards. The proposed project would not result in any significant localized impact in CO concentrations at intersections within the project vicinity.

The proposed project is located in Orange County, which has not been identified to have serpentine and ultramafic rock in its soil. Therefore, the potential risk for naturally occurring asbestos during project construction is small and less than significant.

In September 2010, SCAQMD proposed an analysis methodology using a tiered approach for the evaluation of GHG emissions for development projects. The applicable tier for this development project is Tier 3. GHG emissions from the proposed project would not exceed this SCAQMD Tier 3 GHG threshold of 3,500 metric tons of carbon dioxide emissions per year and would thus be less than significant.

The project site land use designation is General Commercial in the City of Anaheim (City) General Plan. The proposed use of the site is consistent with the City General Plan. The City General Plan is consistent with the Southern California Association of Governments Regional Comprehensive Plan Guidelines and the SCAQMD Air Quality Management Plan (AQMP). Therefore, the proposed project would be consistent with the General Plans and the regional AQMP.

This evaluation was prepared in conformance with appropriate standards, using procedures and methodologies in the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) and associated updates. This report includes air quality data posted on the respective websites of the California Air Resources Board and the United States Environmental Protection Agency to document the local air quality environment.

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
°C	degrees Celsius
µg/m^3	micrograms per cubic meter
AAQS	ambient air quality standards
AB	Assembly Bill
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
CAA	Federal Clean Air Act
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CH_4	methane
City	City of Anaheim
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
cy	cubic yards
Department	Anaheim Public Utilities Department
EO	Executive Order
EOC	Loma Ridge Emergency Response Operations Center
EPA	United States Environmental Protection Agency
ft	feet/foot

GCC	global climate change
GHG	greenhouse gas
GWP	global warming potential
H_2S	hydrogen sulfide
HFCs	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
kW	kilowatts
lbs/day	pounds per day
LST	localized significance threshold
m	meter(s)
mg/m^3	milligrams per cubic meter
mi	mile(s)
MMT	million metric tons
MMT CO_2e	million metric tons of carbon dioxide equivalent
mph	miles per hour
MPO	Metropolitan Planning Organization
MT	metric tons
MT CO_2e	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NO	nitric oxide
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone (or smog)
OCTA	Orange County Transportation Authority
PFCs	perfluorocarbons
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
ppm	parts per million
ppb	parts per billion

project	Orange County Transportation Authority Transit and Security Operations Center
PV	photovoltaic
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	sulfur oxides
SRA	Source Receptor Area
State	State of California
TBACT	Toxics Best Available Control Technology
VMT	vehicle miles traveled
VOCs	volatile organic compounds
Working Group	GHG CEQA Significance Threshold Stakeholder Working Group

PROJECT DESCRIPTION

INTRODUCTION

This Air Quality and Greenhouse Gas (GHG) Analysis has been prepared to evaluate the potential air quality impacts and mitigation measures associated with the proposed Orange County Transportation Authority Transit Security and Operations Center (project) at the intersection of West Lincoln Avenue and South Manchester Avenue in Anaheim, California. This report provides a project-specific Air Quality and GHG Analysis by examining the impacts of the proposed project on adjacent sensitive uses, as well as the impacts of the proposed project on the regional air quality. Guidelines identified by the South Coast Air Quality Management District (SCAQMD) in its *California Environmental Quality Act (CEQA) Air Quality Handbook* (SCAQMD 1993) and associated updates were followed in this Air Quality and GHG Analysis.

PROJECT LOCATION AND DESCRIPTION

The project site is approximately three acres and is located at the intersection of West Lincoln Avenue and South Manchester Avenue, next to Interstate 5, in Anaheim, California. The project site land use designation is General Commercial in the City of Anaheim General Plan. The proposed use of the site is consistent with the City General Plan. Figure 1 shows the project location. Construction is anticipated to take approximately 12 months to complete. The proposed project would include the following:

1. A two-story facility that is approximately 27,000 square feet;

2. A roof-mounted microwave tower (not to exceed 70 feet in from ground elevation);

3. A fueling island with a 2,000-gallon aboveground storage tank for fueling security operation patrol cars;

4. Up to 10 electric vehicle charging stations; and

5. Up to 176 parking spaces for employees, patrol vehicles and visitors.

The following Department and/or Functions will operate 24 hours per day, 7 days per week from the proposed facility:

- Central Communications (route, dispatcher, rail, supervisors)
- Emergency Operations Center and back-up Generator
- Transit Police Services and K-9 Units (no kennels would be required)
- Field Operations and Operations Training
- Information Systems and Technology
- File storage

Figure 1: Project Location

One element of the project includes a 60-foot-tall (from ground elevation) microwave communications tower. This tower will provide a crucial link to the County's Loma Ridge Emergency Response Operations Center (EOC) located at the intersection of Santiago Canyon Road and the State Route 241 Toll Road. The tower must have a clear line-of-sight to the EOC. This system supports critical systems of the bus network, such as computer aided dispatch, automatic vehicle location, and radio communications. Figure 2 illustrates the conceptual site plan.

Earthwork and Grading

The project site is a partially vacant lot with three active automotive repair shops and a tire business currently on site. OCTA owns the project site and plans to cease the leases with the existing tenants prior to project construction. At the commencement of construction, these structures would be demolished along with a block wall and other associated pavement. The demolition is expected to yield approximately 2,000 cubic yards (cy) of demolished construction material to be exported off-site. Preliminary grading plans of cut-and-fill for the proposed project anticipate 6,535 cy of soil would be exported off site and 1,935 cy imported on site. Construction is anticipated to take approximately 12 months to complete.

EXISTING SENSITIVE LAND USES IN THE PROJECT AREA

The project site is surrounded primarily by Interstate 5, and commercial and industrial development. The areas adjacent to the project site include the following uses:

- Northeast (across Interstate 5): Residential development
- Southeast: Industrial development
- Southwest: Industrial development; a school
- Northwest: Commercial development; a church

The closest sensitive receptors are the Fairmont Private School, located 675 ft to the southwest of the project boundary, and the Agape Prayer House, located 740 ft to the northwest of the project boundary.

Figure 2: Conceptual Site Plan

PROJECT SETTING

REGIONAL AIR QUALITY

The project site is in Anaheim, California, which is part of the South Coast Air Basin (Basin) and is under SCAQMD's jurisdiction. Both the State and the federal governments have established health-based ambient air quality standards (AAQS) for seven air pollutants. As detailed in Table A, these pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table B summarizes the primary health effects and sources of common air pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (United States Environmental Protection Agency [EPA]), these health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period. State AAQS are as or more stringent than federal AAQS. O_3 and particulate matter ($PM_{2.5}$ and PM_{10}) are considered pollutants with regional effects, whereas the other criteria pollutants have more localized effects.

The California Clean Air Act (CCAA) provides SCAQMD and other air districts with the authority to manage transportation activities at indirect sources. Indirect sources of pollution include any facility, building, structure, or installation, or combination thereof, that attracts or generates mobile source activity that results in emissions of any pollutant. In addition, the local air districts also manage area source emissions that are generated when minor sources collectively emit a substantial amount of pollution (e.g., motor vehicles at an intersection, a mall, and on highways). SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the California Air Resources Board (CARB) and the EPA.

Climate/Meteorology

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin some of the worst air pollution problems in the nation.

Table A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1-Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1-Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[13]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: CARB. Ambient Air Quality Standards (CARB 2016).

The footnotes for this table are provided on the following page.

Footnotes:

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once per year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/^{3}, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, the new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

[14] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
EPA = United States Environmental Protection Agency
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million

Table B: Summary of Health Effects of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate matter ($PM_{2.5}$ and PM_{10}: less than or equal to 2.5 or 10 microns, respectively)	• Hospitalizations for worsened heart diseases • Emergency room visits for asthma • Premature death	• Cars and trucks (especially diesels) • Fireplaces, woodstoves • Windblown dust from roadways, agriculture, and construction
Ozone (O_3)	• Cough, chest tightness • Difficulty taking a deep breath • Worsened asthma symptoms • Lung inflammation	• Precursor sources:[1] motor vehicles, industrial emissions, and consumer products
Carbon monoxide (CO)	• Chest pain in heart patients[2] • Headaches, nausea[2] • Reduced mental alertness[2] • Death at very high levels[2]	• Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen dioxide (NO_2)	• Increased response to allergens	• See CO sources
Toxic air contaminants	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders	• Cars and trucks (especially diesels) • Industrial sources, such as chrome platers • Neighborhood businesses, such as dry cleaners and service stations • Building materials and products

Source: CARB Fact Sheet: Air Pollution and Health. Website: http://www.arb.ca.gov/research/health/fs/fs1/fs1.htm, accessed July 2018.

[1] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

[2] Health effects from CO exposures occur at levels considerably higher than ambient.

CARB = California Air Resources Board
CO = carbon monoxide
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Anaheim Station, which provides weather data monitored between 1989 and 2016.[1] The monthly average maximum temperature recorded at this station ranged from 70.0°F in January to 87.1°F in August, with an annual average maximum of 77.4°F. The monthly average minimum temperature recorded at this station ranged from 47.5°F in January to 64.5°F in August, with an annual average minimum of 55.4°F. These levels are still representative of the project area. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The Anaheim Station monitored precipitation from August 1989 to June 2016. Average monthly rainfall during that period varied from 3.47 inches in February to 0.53 inch or less between May and

[1] Western Regional Climate Center. Recent Climate in the West. Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0192 (accessed July 2018).

October, with an annual total of 14.09 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and nitrogen oxides (NO_X) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Description of Global Climate Change and its Sources

Global climate change (GCC) is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric[1] temperature of 0.36°F per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming may

[1] The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

occur, which may induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of the State could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heatwaves, extreme cold, and increased intensity of tropical cyclones. Specific effects in the State might include a decline in the Sierra Nevada snowpack, erosion of the State's coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Global surface temperatures have risen by 1.33°F (±0.32°F) over the last 100 years. The rate of warming over the last 50 years is almost double that over the last 100 years (Intergovernmental Panel on Climate Change [IPCC] 2013). The latest projections, based on state-of-the-art climate models, indicate that temperatures in the State are expected to rise 3–10.5°F by the end of the century (State of California 2013). The prevailing scientific opinion on climate change is that "most of the warming observed over the last 60 years is attributable to human activities" (IPCC 2013). Increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as "the greenhouse effect."[1]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC are:[2]

- CO_2
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect. Although GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere compared to these GHGs, which remain in the atmosphere for significant periods of time and contribute to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are

[1] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect". Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, GHGs such as CO_2, CH_4, and N_2O in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

[2] The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

largely determined by natural processes (e.g., oceanic evaporation). For the purposes of this air quality study, the term "GHGs" will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons[1] of "CO_2 equivalents" (MT CO_2e). For example, N_2O is 298 times more potent at contributing to global warming than CO_2. Table C identifies the GWP for each GHG analyzed in this report.

Table C: Global Warming Potential for Selected Greenhouse Gases

Pollutant	Lifetime (Years)	Global Warming Potential (100-year)[1]
Carbon Dioxide (CO_2)	~100[2]	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298

Source: CARB. First Update to the Climate Change Scoping Plan (2014).

[1] The 100-year global warming potential estimates are from Section 2.10.2 of The Direct Global Warming Potentials in the IPCC 2007 Fourth Assessment Report (AR4). Website: https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html (accessed July 2018).

[2] CO_2 has a variable atmospheric lifetime and cannot be readily approximated as a single number.

CARB = California Air Resources Board

IPCC = Intergovernmental Panel on Climate Change

The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO_2, and

[1] A metric ton is equivalent to 1.1 tons.

consequently the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s[1].

The transportation sector remained the largest source of GHG emissions in 2015, representing 37 percent of the State's GHG emission inventory[2]. The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road sources constitute more than 92 percent of the transportation sector total. Industry and electricity generation were the State's second- and third-largest categories of GHG emissions, respectively.

Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 include fires, geologic processes, and bacteria that produce CH_4 in a variety of settings (most notably, wetlands) (EPA 2010). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO_2, the major removal process of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Nitrous Oxide

N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit N_2O. The quantity of N_2O emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in the State.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for O_3-depleting substances regulated under the Montreal Protocol.[3] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in the State; however, the rapid growth in the semiconductor industry, which is active in the State, has led to greater use of PFCs. However,

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1 California Environmental Protection Agency. Climate Action Team Report to Governor Schwarzenegger and the Legislature. Website: http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF (accessed July 2018).

2 California Environmental Protection Agency. Air Resources Board. California GHG Emission Inventory. Website: https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf, accessed July 2018.

3 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the O_3 layer by phasing out the production of several groups of halogenated hydrocarbons that are believed to be responsible for O_3 depletion and are also potent GHGs.

there are no known project-related emissions of these three GHGs; therefore, these substances are not discussed further in this analysis.

Emissions Sources and Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on national, State, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere (Table C), accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

United States Emissions

In 2016, the United States emitted 6.511 billion MT CO_2e, down from 7.4 billion MT in 2007. Total United States emissions increased by 2.4 percent from 1990 to 2016, and emissions increased from 2015 to 2016 by 1.9 percent (126.8 million MT CO_2e). Of the six major sectors nationwide—the electric power industry, transportation, industry, agriculture, commercial, and residential—the electric power industry and transportation sectors combined account for approximately 70 percent of the GHG emissions; the majority of the electric power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Greenhouse gas emissions in 2016 were 11.1 percent below 2005 levels (EPA 2018).

State of California Emissions

According to CARB emission inventory estimates, the State emitted 429.4 million metric tons of CO_2e (MMT CO_2e) in 2016. This is a decrease of 12 MMT CO_2e from 2015. This puts total emissions just below the 2020 target of 431 MMT CO_2e (CARB 2018).

CARB estimates that transportation was the source of 39 percent of the State's GHG emissions in 2016, followed by electricity generation (both in State and out of State) at 16 percent, and industrial sources at 21 percent. The remaining sources of GHG emissions were residential at 7 percent, commercial activities at 5 percent, agriculture at 8 percent, and other unspecified sources at less than 1 percent (CARB 2018).

Air Pollution Constituents and Attainment Status

CARB coordinates and oversees both State and federal air pollution control programs in the State. CARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air districts. CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. CARB and the EPA use data collected at these stations to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent three calendar years compared with the AAQS.

Attainment areas may be:

- Attainment/unclassified ("unclassifiable" in some lists), which have never violated the air quality standard of interest or do not have enough monitoring data to establish attainment or nonattainment status.

- Attainment-maintenance (national ambient air quality standards [NAAQS] only), which violated NAAQS that are currently in use (were nonattainment) in or after 1990, but now attains the standard and is officially redesignated as attainment by the EPA with a maintenance State Implementation Plan (SIP).

- Attainment (usually only for California ambient air quality standards [CAAQS], but sometimes for NAAQS), which have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official maintenance period.

Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards. Table D lists the attainment status for the criteria pollutants in the Basin.

Table D: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment[1]
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment[2]	Unclassified/Attainment[2]
All Others	Attainment/Unclassified	Attainment/Unclassified

Source 1: South Coast Air Quality Management District. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin Website: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf (accessed July 2018).
Source 2: United States Environmental Protection Agency. Nonattainment Areas for Criteria Pollutants (Green Book). Website: https://www.epa.gov/green-book, accessed July 2018.
[1] Area has a design value of 0.175 ppm and above.
[2] The Los Angeles County portion of the Basin is in Nonattainment for Lead
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
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
SO_2 = sulfur dioxide

Ozone

O_3 (smog) is formed by photochemical reactions between NO_X and volatile organic compounds (VOCs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors (e.g., the sick, the elderly, and young children). O_3 levels peak during summer and early fall. The entire Basin is designated as a nonattainment area for the State 1-hour and 8-hour O_3 standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour O_3 standard as "extreme nonattainment," which means the Basin has until 2024 to attain the federal 8-hour O_3 standard.

Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. CO is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is in attainment for the State standards for CO. The Basin is designated as an "attainment/maintenance" area under the federal CO standards.

Nitrogen Oxides

NO_2, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. NO_x also contributes to other pollution problems, including a high concentration of fine particulate matter ($PM_{2.5}$), poor visibility, and acid deposition (i.e., acid rain). NO_x decreases lung function and may reduce resistance to infection. The entire Basin is designated as attainment for the State NO_2 standard and as an "attainment/maintenance" area under the federal NO_2 standard.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both federal and State SO_2 standards.

Lead

Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, the nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire Basin is in attainment with both federal and State lead standards, except in Los Angeles County.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (PM_{10}) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for $PM_{2.5}$ levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health

problems (e.g., asthma). The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily among the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease [e.g., asthma]); decreased lung function (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The Basin is designated nonattainment for the federal and State $PM_{2.5}$ standards and State PM_{10} standard, and attainment/maintenance for the federal PM_{10} standard.

Volatile Organic Compounds

VOCs, (also known as reactive organic gases and reactive organic compounds) are formed from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants; however, because VOCs accumulate in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower, they are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.

Sulfates

Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfurous compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently is converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of the State due to regional meteorological features. The entire Basin is in attainment for the State standard for sulfates.

Hydrogen Sulfide

H_2S is a colorless gas with the odor of rotten eggs. H_2S is formed during bacterial decomposition of sulfur-containing organic substances. In addition, H_2S can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. In 1984, a CARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance. The entire Basin is unclassified for the State standard for H_2S.

Visibility-Reducing Particles

Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials (e.g., metals, soot, soil, dust, and salt). The Statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. The entire Basin is unclassified for the State standard for visibility-reducing particles.

LOCAL AIR QUALITY

SCAQMD, together with CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Anaheim station, which monitors most air pollutant data, except SO_2, data for which were obtained from the Costa Mesa station. The air quality trends from these two stations are used to represent the ambient air quality in the project area. The pollutants monitored are CO, O_3, PM_{10}, $PM_{2.5}$, and NO_2.[1,2] The ambient air quality data in Table E show that NO_2, SO_2, 24-hour and annual average PM_{10}, and CO levels are below the applicable State and federal standards.

The State 1-hour O_3 standard was exceeded up to two times per year in the past 3 years. The federal 8-hour O_3 standard was exceeded up to two times per year in the past 3 years, and the State 8-hour O_3 standard was exceeded up to four times per year in the past 3 years. The State 24-hour PM2.5 standard was exceeded up to three times per year in the past 3 years.

REGULATORY SETTINGS

Federal Regulations/Standards

Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established the NAAQS. The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations to protect public health.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the Federal Clean Air Act (CAA) for the Basin.

In an effort to help federal agencies ensure the integrity of their environmental reviews and promote sound governmental decision making, the Council on Environmental Quality (CEQ) issued on January 14, 2011 final guidance on the "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact." This guidance was developed as part of CEQ's effort to modernize and reinvigorate federal agency implementation of the National Environmental Policy Act.

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the CAA.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to GCC.

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1 United States Environmental Protection Agency. AirData: 2015–2017 Air Quality Data. Website: http://www.epa.gov/airquality/airdata (accessed July 2018).

2 California Air Resources Board. iADAM: Air Quality Data Statistics. Website: http://www.arb.ca.gov/adam (accessed July 2018).

Table E: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2015	2016	2017
Carbon Monoxide (CO) – Anaheim Monitoring Station				
Maximum 1-hr concentration (ppm)		3.1	2.6	2.5
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hr concentration (ppm)		2.2	2.1	2.1
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9.0 ppm	0	0	0
Ozone (O_3) – Anaheim Monitoring Station				
Maximum 1-hr concentration (ppm)		0.1	0.103	0.09
Number of days exceeded:	State: > 0.09 ppm	1	2	0
Maximum 8-hr concentration (ppm)		0.08	0.074	0.076
Number of days exceeded:	State: > 0.07 ppm	1	4	4
	Federal: > 0.07 ppm	1	0	2
Coarse Particulates (PM_{10}) – Anaheim Monitoring Station				
Maximum 24-hr concentration (µg/m^3)		59	74.0	95.7
Number of days exceeded:	State: > 50 µg/m^3	0	0	0
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		27	ND	ND
Exceeded for the year:	State: > 20 µg/m^3	Yes	No	No
Fine Particulates ($PM_{2.5}$) – Anaheim Monitoring Station				
Maximum 24-hr concentration (µg/m^3)		45.8	44.4	53.9
Number of days exceeded:	Federal: > 35 µg/m^3	3	1	0
Annual arithmetic average concentration (µg/m^3)		14.7	9.4	7
Exceeded for the year:	State: > 12 µg/m^3	Yes	No	ND
	Federal: > 15 µg/m^3	No	No	ND
Nitrogen Dioxide (NO_2) – Anaheim Monitoring Station				
Maximum 1-hr concentration (ppm)		0.059	0.064	0.081
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.015	0.015	0.014
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2) – Costa Mesa Monitoring Station				
Maximum 24-hr concentration (ppm)		0.0045	0.0033	0.002
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.00051	0.00047	0.00042
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Source 1: United States Environmental Protection Agency. AirData: 2015–2017 Air Quality Data. Website: https://www.epa.gov/outdoor-air-quality-data/air-quality-index-report (accessed July 2018).
Source 2: California Air Resources Board. iADAM: Air Quality Data Statistics. Website: http://www.arb.ca.gov/adam, accessed July 2018.
µg/m^3 = micrograms per cubic meter
hr = hour
ND = no data available
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million

State Regulations/Standards

In 1967, the State Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus (i.e., the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board), to establish CARB. Since its formation, CARB has worked with the public, the business sector, and local governments to find solutions to the State's air pollution problems.

The California Air Pollution Control Officers Association (CAPCOA) is a nonprofit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA was formed in 1976 to promote clean air and to provide a forum for sharing knowledge, experience, and information among the air quality regulatory agencies around the State. CAPCOA meets regularly with federal and State air quality officials to develop statewide rules and to assure consistent application of rules and regulations. CAPCOA works with specialized task forces (including regulated industry) by participating actively in the legislative process, and continuing to coordinate local efforts with those of State and federal air agencies. The goal is to protect public health while maintaining economic vitality.

California adopted the CCAA in 1988. CARB administers the CAAQS for the 10 air pollutants designated in the CCAA. These 10 State air pollutants are the six criteria pollutants designated by the federal CAA as well as four others: visibility-reducing particulates, H_2S, sulfates, and vinyl chloride.

California Climate Action Milestones

In 1988, Assembly Bill (AB) 4420 directed the California Energy Commission (CEC) to report on "how global warming trends may affect the State's energy supply and demand, economy, environment, agriculture, and water supplies" and offer "recommendations for avoiding, reducing and addressing the impacts." This marked the first statutory direction to a State agency to address climate change.

The California Climate Action Registry was created to encourage voluntary reporting and early reductions of GHG emissions with the adoption of Senate Bill (SB) 1771 in 2000. The CEC was directed to assist by developing metrics and identifying and qualifying third-party organizations to provide technical assistance and advice to GHG emission reporters. The next year, SB 527 amended SB 1771 to emphasize third-party verification.

SB 1771 also contained several additional requirements for the CEC, including (1) updating the State's GHG inventory from an existing 1998 report and continuing to update it every 5 years; (2) acquiring, developing, and distributing information on GCC to agencies and businesses; (3) establishing a State interagency task force to ensure policy coordination; and (4) establishing a climate change advisory committee to make recommendations on the most equitable and efficient ways to implement GCC requirements. In 2006, AB 1803 transferred preparation of the inventory from the CEC to CARB; CARB updates the inventory annually.

AB 1493, authored by Assemblymember Fran Pavley in 2002, directed CARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. CARB approved the so-called "Pavley" regulations, or Clean Car regulations, in 2004. On September 24, 2009, CARB adopted amendments to AB 1493 that reduced GHG emissions in new passenger vehicles from 2009 through 2016. AB 1493 also directed the State's Climate Action Registry to adopt

protocols for reporting reductions in GHG emissions from mobile sources prior to the operative date of the regulations.

Executive Order (EO) S-3-05 (June 2005) established GHG targets for the State (e.g., returning to year 2000 emission levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050). EO S-3-05 directed the Secretary of the California Environmental Protection Agency to coordinate efforts to meet the targets with the heads of other State agencies. This group became the Climate Action Team.

In 2006, the State Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multiyear program to reduce GHG emissions in California. AB 32 required CARB to develop a scoping plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. CARB first approved the scoping plan in 2008; it must be updated every 5 years. CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. In 2016, the State Legislature passed SB 32, which codifies a 2030 GHG emission reduction target of 40 percent below 1990 levels. With SB 32, the State Legislature passed companion legislation, AB 197, which provides additional direction for developing the scoping plan. CARB released the second update to the scoping plan in November 2017 to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets; make changes to CARB's membership, and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emission data to enhance transparency and accountability.

More specifically, SB 32 codified the 2030 emission reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the State's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emission data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emission reduction measures when updating the scoping plan.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes building energy efficiency standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The CEC is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and to incorporate new energy-efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability,

increase indoor comfort, avoid the need to construct new power plants, and help to preserve the environment.

The 2016 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2017. The 2016 Title 24 standards will further reduce energy used and the associated GHG emissions. In general, single-family homes built to the 2016 standards are anticipated to use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5 percent less energy than those built to the 2013 standards (CEC 2015). It should be noted that the 2016 Title 24 energy data are used in the California Emission Estimator Model (CalEEMod) version 2016.3.2.

Mobile Sources

California is implementing the world's first Low Carbon Fuel Standard for transportation fuels, pursuant to both EO S-01-07 (signed January 2007) and AB 32. The standard requires a reduction of at least 10 percent in the CO intensity of the State's transportation fuels by 2020. This reduction is expected to reduce GHG emissions in 2020 by 17.6 MMT CO_2e. Also in 2007, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program. The CEC and CARB administer the program. This act provides funding for alternative fuel and vehicle technology research, development, and deployment to attain the State's climate change goals, achieve the State's petroleum reduction objectives and clean air and GHG emission reduction standards, develop public-private partnerships, and ensure a secure and reliable fuel supply.

In addition to vehicle emissions regulations and the Low Carbon Fuel Standard, the third effort to reduce GHG emissions from transportation is the reduction in the demand for personal vehicle travel (i.e., vehicle miles traveled [VMT]). This measure was addressed in September 2008 through the Sustainable Communities and Climate Protection Act of 2008, or SB 375. SB 375 initiated an important new regional land use planning process to mitigate GHG emissions by integrating and aligning planning for housing, land use, and transportation for California's 18 MPOs. The bill directed CARB to set regional GHG emission reduction targets for most areas of the State. SB 375 also contained important elements related to federally mandated regional transportation plans and the alignment of State transportation and housing planning processes.

Also codified in 2008, SB 97 required the Governor's Office of Planning and Research to develop GHG emissions criteria for use in determining project impacts under CEQA. These criteria were developed in 2009, and went into effect in 2010.

Adaptation Plan

EO S-13-08 launched a major initiative for improving the State's adaptation to climate impacts from sea level rise, increased temperatures, shifting precipitation, and extreme weather events. EO S-13-08 ordered a California Sea Level Rise Assessment Report request from the National Academy of Sciences. It also ordered the development of a Climate Adaptation Strategy. The strategy, published in December 2009, assesses the State's vulnerability to climate change impacts, and outlines possible solutions that can be implemented within and across State agencies to promote resiliency. The Strategy focused on seven areas: public health, biodiversity and habitat,

ocean and coastal resources, water management, agriculture, forestry, and transportation and energy infrastructure.

The initiatives, EOs, and statutes outlined above compose the major milestones in California's efforts to address climate change through coordinated action on climate research, GHG mitigation, and climate change adaptation. State agencies and departments have undertaken numerous other related efforts to address specific questions and programmatic needs. The Climate Action Team coordinates these efforts and others, which compose the State's climate program.[1]

Regional Air Quality Planning Framework

The 1976 Lewis Air Quality Management Act established SCAQMD and other air districts throughout the State. The federal CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the State.

CARB is responsible for incorporating air quality management plans for local air basins into a SIP for EPA approval. Significant authority for air quality control within them has been given to local air districts that regulate stationary-source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan

SCAQMD and SCAG are responsible for formulating and implementing the AQMP for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. SCAQMD prepares a new AQMP every 3 years, updating the previous plan and 20-year horizon.

The latest plan is the 2016 AQMP, which 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 (SCAQMD 2017a). The 2016 AQMP included the integrated strategies and measures needed to meet the NAAQS, implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards. Key elements of the 2016 AQMP include:

- Calculation and credit for cobenefits from other planning efforts (e.g., climate, energy, and transportation)
- A strategy with fair-share emission reductions at the federal, State, and local levels
- Investment in strategies and technologies meeting multiple air quality objectives
- Identification of new partnerships and significant funding for incentives to accelerate deployment of zero and near-zero technologies

[1] State of California. 2015. Highlights of the California Climate Change Program. Website: http://www.climatechange.ca.gov/state/highlights.html#year2015 (accessed July 2018).

- Enhanced socioeconomic assessment, including an expanded environmental justice analysis
- Attainment of the 24-hour $PM_{2.5}$ standard in 2019 with no additional measures
- Attainment of the annual $PM_{2.5}$ standard by 2025 with implementation of a portion of the ozone strategy
- Attainment of the 1-hour ozone standard by 2022 with no reliance on "black box" future technology (CAA Section 182(e)(5) measures)

Local Policies

City of Anaheim General Plan

As the largest city in Orange County and the only one that owns its own public utilities, Anaheim has made a longstanding commitment to promoting energy conservation. The City of Anaheim (City) adopted the Green Element of the General Plan in June 2018. It sets forth the goals, objectives, and policies that guide the City on the implementation of its energy improvement programs and strategies. The following goals and policies are applicable to the proposed project.

Goal 15.2: Continue to encourage site design practices that reduce and conserve energy.

Policy (1): Encourage increased use of passive and active solar design in existing and new development (e.g., orienting buildings to maximize exposure to cooling effects of prevailing winds and locating landscaping and landscape structures to shade buildings).

Policy (2): Encourage energy-efficient retrofitting of existing buildings throughout the City.

Policy (3): Continue to provide free energy audits to the public.

Goal 17.1: Encourage building and site design standards that reduce and conserve energy.

Policy (1): Encourage designs that incorporate solar and wind exposure features such as daylighting design, natural ventilation, space planning and thermal massing.

Anaheim Greenhouse Gas Reduction Plan

The Anaheim Greenhouse Gas Reduction Plan was developed by the Anaheim Public Utilities Department and published in July 2015. The Department's targets are to reduce GHG emissions by 20 percent below 1990 levels by 2020 and to reduce GHG emissions by 40 percent below 1990 levels by 2030. Key activities and targets for reducing emissions focus on investments in renewable energy water conservation, energy efficiency, installation of photovoltaic (PV) systems, and electric transportation.

- **Renewables Portfolio:** The Department achieved 20 percent of its electrical supply from renewable energy in 2015. The Department seeks to increase renewable energy sources including solar, wind, biogas, geothermal, and small hydropower. The Department's targets are to achieve 33 percent renewables by 2020, and 40 to 50 percent renewables by 2030.

- **Water Conservation:** Water conservation measures have contributed to a 17-percent reduction in 2015. Annual water savings has led to energy savings as well as reduction in GHG emissions. Water conservation measures applied in 2015 include: 1) Expanding turf removal rebates and introduction of a zero-interest loan program; 2) outreach on mandatory measures; and 3) provision of water rebate programs to residents and businesses. The Department has set a water conservation 2020 Target of reducing per capita water use by 20 percent. The 2030 target is a 25 percent decrease in per capita water use.

- **Energy Efficiency:** In 2015, the City achieved 10 percent energy efficiency of retail consumption. The City aims to increase energy efficiency from retail use to 15 percent by 2020, and 30 percent by 2030.

- **School Energy Efficiency:** In 2015, the City completed 30 school energy audits and provided rebate opportunities. The City has a goal of increasing the number of energy audits conducted in schools to 50 schools energy audits by 2020 and 80 energy audits by 2030.

- **PV Systems for Homes and Businesses:** In 2015, the City installed 16,000 kilowatts (kW) of PV systems on rooftops of homes and businesses. The City aims to increase the amount of energy produced from PV systems installed on rooftops of homes and businesses to 27,000 kW by 2020, and 37,000 kW by 2030.

- **PV Systems for Schools:** In 2015, the City installed nine PV systems on school rooftops. The City aims to increase the number of installed PV systems on school rooftops 14 by 2020, and 24 by 2030.

- **Electric Transportation:** In 2015, there were 900 low- or zero-emission vehicles registered in the City. The Department of Public Utilities has installed 31 public charging stations throughout the City to encourage use of electric vehicles. The City aims to increase the number of low or zero emission vehicles to 2,000 by 2020, and 5,000 by 2030.

- **Utility Fleet Vehicles:** In 2015, two percent of the utility fleet vehicles were low of zero emission vehicles. The City aims to increase the number of low or zero emission vehicles in the utility fleet to 10 percent by 2020, and 20 percent by 2030.

THRESHOLDS OF SIGNIFICANCE

Certain air districts (e.g., SCAQMD), have created guidelines and requirements to conduct air quality analysis. SCAQMD's current guidelines, the *CEQA Air Quality Handbook* (SCAQMD 1993) with associated updates and City guidelines were followed in this assessment of air quality and GCC impacts for the proposed project.

Based on the Guidelines for the Implementation of CEQA, Appendix G, Public Resources Code Sections 15000–15387, a project would normally be considered to have a significant effect on air quality if the project would violate any State AAQS, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with adopted environmental plans and goals of the community in which it is located.

POLLUTANTS WITH REGIONAL EFFECTS

SCAQMD has established daily emission thresholds for construction and operation of a proposed project in the Basin. The emission thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Regional Thresholds for Construction and Operational Emissions

Table F lists the CEQA significance thresholds for construction and operational emissions established for the Basin:

Table F: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (lbs/day)					
	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_x
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: SCAQMD. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf (accessed July 2018).
CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compounds

Projects in the Basin with construction-related emissions or operational-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines.

Local Microscale Concentration Standards

The significance of localized CO project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the Basin, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

Localized Significance Threshold Impacts Analysis

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008 (SCAQMD 2003), recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. LSTs represent the maximum emissions from a project site of up to 5 acres that are not expected to result in an exceedance of the NAAQS or the CAAQS, as shown in Table A. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA for the LST analysis is the Central Orange County area (SRA 17).

If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables can be used to determine if a project has the potential to result in a significant impact. In the case of CO and NO_2, because ambient levels are below the NAAQS and CAAQS, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$, both of which are nonattainment pollutants (SCAQMD 2005). For these two, the significance criteria are the pollutant concentration thresholds presented in SCAQMD Rules 403 and 1303. The Rule 403 threshold of 10.4 micrograms per cubic meter ($\mu g/m^{3)}$ applies to construction emissions. The Rule 1303 threshold of 2.5 $\mu g/m^3$ applies to operational activities.

Based on the SCAQMD recommended methodology[1] and the construction equipment planned, no more than 3.5 acres[2] would be disturbed on any one day; thus, the 3.5-acre LSTs have been used for construction emissions. On-site operational emissions would occur from stationary and mobile sources. However, on-site vehicle emissions are the largest source of emissions, and the on-site travel routes for the proposed project would be equivalent to driving over 3 acres of surface area. Therefore, the 3-acre thresholds would apply during project operations:

1 SCAQMD. *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed July 2018).

2 A maximum disturbance of 3.5 acre would occur during the grading phase from the use of one excavator, one grader, one rubber-tired bulldozer and three tractors for 8 hours per day. It is assumed that one of the three tractors/loaders/backhoes will be used as a backhoe.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The nearest sensitive receptor is the Fairmont Private School of Anaheim 675 feet to the southwest of the project boundary. Table G lists the emissions thresholds that apply during project construction and operation.

Table G: SCAQMD LST Thresholds (lbs/day)

Emissions Source Category	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction (3.5-acre, 675 foot distance)	176	3,453	80	30
Operations (3-acre, 675 foot distance)	167	3,229	19	7

Source: SCAQMD LST Guidance Manual (SCAQMD 2008a)
LST = localized significance threshold
SCAQMD = South Coast Air Quality Management District

GLOBAL CLIMATE CHANGE

State CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data", and further states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

A project would normally have a significant effect on the environment if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

On December 30, 2009, the Natural Resources Agency adopted amendments to the State *CEQA Guidelines* that became effective on March 18, 2010. The amendments to the State *CEQA Guidelines* include new requirements to evaluate GHG emissions. Pursuant to the amended State *CEQA Guidelines,* a lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG emissions compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Stakeholder Working Group (Working Group).[1] Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD proposed an analysis methodology using a tiered approach for the evaluation of GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010). The applicable screening tier for this operations center project is Tier 3 (if GHG emissions are less than 3,500 MT CO_2e/year, project-level and cumulative GHG emissions would be considered less than significant).

[1] South Coast Air Quality Management District. Greenhouse Gases (GHG)—CEQA Significance Thresholds. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/ (accessed July 2018).

IMPACTS AND MITIGATION

Air pollutant emissions associated with the project would occur over the short term from construction activities (e.g., fugitive dust from site preparation and grading, and emissions from equipment exhaust). Long-term regional emissions would be associated with project-related vehicular trips and energy consumption (e.g., electricity and natural gas usage).

CONSTRUCTION IMPACTS

Equipment Exhausts and Related Construction Activities

Construction activities produce combustion emissions from various sources (e.g., grading, site preparation, utility engines, tenant improvements, and motor vehicles transporting the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions. Table H lists the tentative project construction schedule anticipated to occur over the course of 12 months for the proposed project based on project plans.

Table H: Tentative Project Construction Schedule

Phase Number	Phase Name	Number of Days/Week	Number of Days
1	Demolition	5	20
2	Site Preparation	5	3
3	Grading and Excavation	5	6
4	Building Construction	5	220
5	Architectural Coatings	5	10
6	Paving	5	10

Source: Estimated from site plan, assuming a 2020 opening year, and CalEEMod defaults (2018).
CalEEMod = California Emissions Estimator Model

Table I lists the estimated construction equipment that would be used during project construction. The most recent version of CalEEMod (Version 2016.3.2) was used to calculate the construction emissions. Table J shows the construction emissions. The emissions rates shown in the table are from the CalEEMod output tables listed as “Mitigated Construction”, even though the only measures that have been applied to the analysis are the required construction emission control measures, or standard conditions. They are also the combination of the on- and off-site emissions.

Because no exceedances of any criteria pollutants are expected, no significant impacts would occur for project construction. Standard measures are discussed later in this report. Details of the emission factors and other assumptions are included in Appendix A.

Table I: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	3	8	158	0.38
	Rubber-Tired Bulldozers	2	8	247	0.40
Site Preparation	Rubber-Tired Bulldozers	3	8	247	0.40
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	1	8	158	0.38
	Graders	1	8	187	0.41
	Rubber-Tired Bulldozers	1	8	247	0.40
	Tractors/Loaders/Backhoes	3	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Architectural Coating	Air Compressors	1	6	78	0.48
Paving	Cement and Mortar Mixers	2	6	9	0.56
	Pavers	1	8	130	0.42
	Paving Equipment	2	6	132	0.36
	Rollers	2	6	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37

Source: Compiled by LSA (July 2018).

Table J: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions, lbs/day							
	VOC	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	4	37	23	<1	<1	2	<1	2
Site Preparation	4	46	23	<1	8	3	5	2
Grading	4	69	27	<1	6	2	2	1
Building Construction	3	23	19	<1	1	1	<1	1
Architectural Coatings	14	2	2	<1	<1	<1	<1	<1
Paving	2	13	13	<1	<1	1	<1	1
Peak Daily	**14**	**69**	**27**	**<1**	**11**		**7**	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (July 2018).
Assumes the Building Construction and Architectural Coating phases overlap. PM_{10} and $PM_{2.5}$ fugitive emissions are from the Mitigated results - the only "mitigation" applied in this modeling is required dust control measures per SCAQMD Rule 403. Numbers may not appear to add correctly due to rounding.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compounds

Fugitive Dust

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, as well as cut-and-fill grading and excavation operations. Dust generated during construction varies substantially on a day-by-day basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction. The proposed project will be required to comply with SCAQMD Rule 403 to control fugitive dust.

Table J lists total construction emissions (i.e., fugitive-dust emissions and construction-equipment exhausts) that have incorporated the following Rule 403 measures that would be implemented to significantly reduce PM_{10} emissions from construction. The Rule 403 measures that were incorporated in the CalEEMod analysis are as follows:

- Water active sites at least twice daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 ft (0.6 m) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.

Architectural Coatings

Architectural coatings contain VOCs that are part of the O_3 precursors. Based on the proposed project, application of the architectural coatings for the proposed peak construction day is estimated to result in a peak of 14 pounds per day (lbs/day) of VOC. Therefore, this VOC emission will not exceed the SCAQMD VOC threshold of 75 lbs/day.

Localized Impacts Analysis

Table K shows the portion of the construction emissions that would be emitted on the project site compared to the LST thresholds. Table K shows that the localized construction emissions would not result in a locally significant air quality impact.

Table K: Construction Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	46	22	11	7
LST Thresholds	**176**	**3,453**	**80**	**30**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (July 2018).
Note: Source Receptor Area – Central Orange County, 3.5 acres, receptors at 675 feet
CO = carbon monoxide
lbs/day = pounds per day
LST = local significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Odors

Heavy-duty equipment in the project area during construction would emit odors, primarily from equipment exhaust. No other sources of objectionable odors have been identified for the proposed project, and no mitigation measures are required.

SCAQMD Rule 402 regarding nuisances 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." The proposed uses are not anticipated to emit any objectionable odors; therefore, objectionable odors affecting a substantial number of people would not occur as a result of the proposed project.

Naturally Occurring Asbestos

The project site is in Orange County, which is not among the counties that have been found to have serpentine and ultramafic rock in their soils.[1] Therefore, the potential risk for naturally occurring asbestos during project construction is small and less than significant.

Construction Emissions Conclusions

Table J shows that daily regional construction emissions would not exceed the daily thresholds of any criteria pollutant emission thresholds established by SCAQMD. Table K shows that, during construction, there will be no locally significant impacts.

LONG-TERM REGIONAL AIR QUALITY IMPACTS

Long-Term Project Operational Emissions

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The proposed project would result in net increases in both stationary and mobile-source emissions. The area wide source emission categories include both stationary and off-road mobile sources. Stationary sources in CalEEMod include gasoline-dispensing pumps, aboveground storage tanks, consumer products, whereas off-road mobile sources include off-road equipment such as landscaping equipment.[2]

Based on trip generation factors provided in the *Trip Generation for Proposed Transit Security and Operations Center* (LIN Consulting 2018), the project would generate up to 920 daily trips. These trips were entered in the CalEEMod model. In addition, estimated VOC emissions from the gasoline dispensing pumps is included in the operational emission analysis under stationary sources. The long-term operational emissions associated with the proposed project is shown in Table L.

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1 California Department of Conservation. Asbestos. Website: http://www.conservation.ca.gov/cgs/minerals/hazardous_minerals/asbestos/Pages/index.aspx (accessed July 2018).

2 California Air Resources Board. Information on Areawide Source Categories. Website: https://www.arb.ca.gov/ei/areasrc/moreareainfo.htm (accessed July 2018; page last reviewed February 11, 2013).

Table L: Project Regional Operational Emissions

Source	Pollutant Emissions, lbs/day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	<1	<1	<1	0	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	2	6	20	<1	6	2
Stationary	10	0	0	0	0	0
Total Project Emissions	**12**	**6**	**20**	**0**	**6**	**2**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (July 2018).
CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides
VOC = volatile organic compounds

As shown in Table L, project-related increases of all criteria pollutants would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutants.

Localized Impacts Analysis

Table M shows the calculated emissions for the proposed operational activities compared with the appropriate LSTs. By design, the localized impacts analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in Table M include all on-site project-related area sources and 5 percent of the project-related mobile sources, which is an estimate of the amount of project-related vehicle traffic that would occur on site. Five percent would be considered conservative because the average trip lengths assumed are 16.6 miles (mi) for home to work, 8.4 mi for home to shopping, and 6.9 mi for other types of trips. The average on-site distance driven is unlikely to be even 1,000 ft, which is approximately 2 percent of the total miles traveled. Considering the total trip length included in the CalEEMod, the 5 percent assumption is conservative.

Table M: Long-Term Operational Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	<1	1	<1	<1
LST Thresholds	**167**	**3,229**	**19**	**7**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (July 2018).
Note: Source Receptor Area – Central Orange County, 3 acres, receptors at 675 feet, on-site traffic 5 percent of total.
CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance thresholds
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Table M shows that the localized operational emissions would not exceed the LSTs for the sensitive receptors near the project site. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

STATIONARY SOURCE

The project would operate one 2,000-gallon aboveground fuel tank. For the purpose of the air quality analysis, it would take approximately 12 fuel delivery truck trips per year (i.e., by a 9,000-gallon, two-axle fuel truck) to deliver an estimated annual maximum of 24,000 gallons of fuel to the project site. The gasoline dispensing facility would generate criteria pollutant emissions directly and indirectly, specifically by the fuel delivery trucks, VOC losses from the storage tank and dispensing system, and combustion of fuel in the vehicles.

SCAQMD Rule 461 - Gasoline Transfer and Dispensing, requires the installation of enhanced vapor recovery systems that would reduce the amount of vapor that would be emitted into the atmosphere by 95 to 98 percent from levels without such systems. All gasoline-dispensing facilities under SCAQMD jurisdiction have Phase I and II vapor recovery systems to control gasoline emissions. Phase I vapor recovery refers to the collection of gasoline vapors displaced from storage tanks when cargo tank trucks make gasoline deliveries. Phase II vapor recovery systems control the vapors displaced from vehicle fuel tanks during refueling. In addition, all gasoline would be stored in an aboveground storage tank with fill tubes equipped with vapor-tight seals and caps to further control gasoline emissions. Emissions from gasoline transfer and dispensing mainly occur during loading, breathing, refueling, and spillage.

According to the SCAQMD Annual Emission Reporting (AER) Program, the default organic emission factor for gasoline fuel dispensing pump station with fuel storage and dispensing system is 0.396 pounds of VOC per 1,000 gallons of fuel dispensed (SCAQMD 2017b). For purposes of the analysis of this project, it is assumed that the 2,000-gallon aboveground storage tank would contain gasoline and be filled 12 times throughout the year, resulting in an estimated annual VOC emission of 9.5 pounds per year (i.e., 24,000 gallons × 0.396 lb VOC per 1,000 gallons).

Toxic Air Contaminant Emissions

Dispensing gasoline products has the potential to introduce air toxics (primarily benzene emissions) into the local environment. The SCAQMD regulates these air toxics emissions through a permitting process (and its corresponding Health Risk Assessment) that applies to all gasoline dispensing stations within the Basin. As part of its permitting process, SCAQMD performs an analysis of potential cancer risk associated with anticipated benzene emissions from individual gasoline dispensing pumps.

The SCAQMD has established thresholds of significance that account for site-specific factors such as gasoline throughput and the locations of nearby receptors. If the analysis indicates that the cancer risk at a nearby receptor location (i.e., an area where persons reside, work, or attend school—not including streets or sidewalks) is less than one case per million persons, the risk is considered less than significant and no mitigation is required. If the analysis results indicate that the lifetime cancer risk is between 1 and 10 cases per million, the impact is considered less than significant with the application of Toxics Best Available Control Technology (TBACT). Under existing SCAQMD

regulations, a permit cannot be issued for a gasoline-dispensing pump with an identified cancer risk between 1 and 10 unless TBACT is made a part of the project. CARB must certify all vapor recovery equipment that is used at gasoline-dispensing pumps, which would satisfy the TBACT requirement. If the analysis indicates that the cancer risk is greater than 10 cases per million, the impact is considered significant and SCAQMD would further constrain the gasoline dispensing service station's operations to stay below a cancer risk of 10 cases per million.

SCAQMD staff has indicated on previous gas station projects that only a very high throughput service station in close proximity to a school or other sensitive receptor would be likely to exceed the 10 cases per million threshold. At present, SCAQMD staff runs individual cancer risk assessments on all new service stations or projects where a school is within 1,000 feet of the project site and there is an increase in emissions. There is a school located approximately 675 feet of the project. The nearest sensitive receptor to the project site is a residential area approximately 675 feet to the west and 700 feet to the south. Compliance with existing SCAQMD rules and regulations would ensure potential impacts associated with air toxics would be less than significant.

As indicated in Table M, project operational emissions of criteria pollutants would be below SCAQMD significance thresholds; thus, they are not likely to have a significant impact on these residences given the distance and the dispersion that would occur. Exposure by individuals pumping gasoline would be limited in time, so the dose level for employees would be low. In addition, SCAQMD Rule 461 requires the installation of enhanced vapor recovery systems. This would further limit doses and exposures, reducing potential health risks related to gasoline vapors to a less than significant level. Overall, project impacts related to exposure of sensitive receptors to stationary source emissions would be considered less than significant.

Odors

CEQA and the SCAQMD Guide consider objectionable odors as a potentially significant environmental impact. SCAQMD Rule 402 prohibits the discharge of air contaminants that could be a nuisance or an annoyance. This prohibition includes potential odors. Potential sources of odors associated with the project include the release of gasoline vapors. Such odors in general would be confined mainly to the project site, and would readily dissipate. In accordance with SCAQMD Rule 461, enhanced vapor recovery systems on gasoline dispensing pumps would be required. Project impacts related to odors are considered less than significant.

GREENHOUSE GAS EMISSIONS

This section evaluates potentially significant impacts to GCC that could result from implementation of the proposed project. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emission of GHGs. Mitigation measures are identified as appropriate.

Greenhouse Gas Emissions Background

Emission estimates for the proposed project are discussed below. GHG emission estimates are provided herein for informational purposes only, as there is no established quantified GHG emission threshold. Bearing in mind that CEQA does not require "perfection", but instead "adequacy,

completeness, and a good faith effort at full disclosure", the analysis below is based on methodologies and information available to the City and the applicant at the time this analysis was prepared. Estimation of GHG emissions in the future does not account for all changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than what is likely to be encountered (after energy-efficient technologies have been implemented).

Although information is presented below to assist the public and decision-makers in understanding the project's potential contribution to GCC impacts, the information available to the City is not sufficiently detailed to allow a direct comparison between particular project characteristics and particular climate change impacts, nor between any particular proposed mitigation measure and any reduction in climate change impacts.

Project construction and operation would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation (as opposed to during its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings and less than 20 percent of energy is consumed during construction (United Nations Environment Programme 2007).

Table N lists the annual CO_2e emissions for each of the planned construction phases based on the results from CalEEMod. Per SCAQMD guidance (SCAQMD 2008b), due to the long-term nature of the GHGs in the atmosphere, instead of determining significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the proposed project), added to the operational emissions, and compared to the applicable GHG significance threshold.

Table N: Construction Greenhouse Gas Emissions

Construction Phase		Total Regional Pollutant Emissions (MT/yr)			
		CO_2	CH_4	N_2O	CO_2e
2019	Demolition	38	<1	0	38
	Site Preparation	5	<1	0	5
	Grading and Excavation	40	<1	0	40
	Building Construction	343	<1	0	344
	Paving	9	<1	0	9
	Architectural Coating	<1	<1	0	<1
2020	Architectural Coating	1	<1	0	1
Total Construction Emissions		**438**	**<1**	**0**	**440**
Amortized over 30 years		**15**	**<1**	**0**	**15**

Source: Compiled by LSA (July 2018).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include project-generated vehicle trips. Area-source

emissions would be associated with activities including landscaping and maintenance of the proposed project, natural gas for heating, and other sources. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed project.

The GHG emission estimates presented in Table O shows the emissions associated with the level of development envisioned by the proposed project at opening. Appendix A includes the worksheets for the GHG emissions. As shown in Table O, the project would result in GHG emissions of 1,300 MT CO_2e/yr.

Table O: Operational Greenhouse Gas Emissions

Source	Pollutant Emissions, MT/year					
	Bio- CO_2	**NBio- CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Construction emissions amortized over 30 years	0	15	15	<1	0	15
Operational Emissions						
Area Sources	0	<1	<1	<1	0	<1
Energy Sources	0	295	295	<1	<1	295
Mobile Sources	0	903	903	<1	0	904
Waste Sources	5	0	5	<1	0	13
Water Usage	2	67	68	<1	<1	73
Total Project Emissions	**7**	**1,279**	**1,285**	**0**	**0**	**1,300**
					SCAQMD Threshold	**3,500**
					Would Emissions Exceed Threshold?	**No**

Source: Compiled by LSA (July 2018).
Note: Numbers in table may not appear to add up correctly due to rounding of all numbers.
Bio-CO_2 = biologically generated CO_2 MT/yr = metric tons per year
CH_4 = methane N_2O = nitrous oxide
CO_2 = carbon dioxide NBio-CO_2 = Non-biologically generated CO_2
CO_2e = carbon dioxide equivalent SCAQMD = South Coast Air Quality Management District

Area Sources

Area sources of GHG emissions include consumer products and landscaping. The project would result in a very minor GHG emission from area sources (less than 1 MT CO_2e/year).

Energy Sources

Buildings represent 39 percent of the United States' primary energy usage and 70 percent of its electricity consumption (United States Energy Information Administration 2018). The proposed project would increase the demand for electricity and natural gas due to the on-site building area. The project would indirectly result in GHG emissions from off-site electricity generation at power plants and on-site natural gas consumption (295 MT CO_2e/year).

Mobile Sources

Mobile sources (vehicle trips and associated VMT) are the largest source of GHG emissions in California and represent approximately 39 percent of annual CO_2 emissions generated in the State. Like most land use development projects, VMT is the most direct indicator of CO_2 emissions from

the proposed project, and associated CO_2 emissions function as the best indicator of total GHG emissions. Emissions from vehicle exhaust would comprise 70 percent of the project's total CO_2e emissions. The project would directly result in GHG emissions from mobile sources (904 MT CO_2e/year). Emissions from vehicle exhaust are controlled by the State and federal governments and are outside the City's control.

Waste Sources

The proposed project would also generate solid waste during the operation phase of the project. Default solid waste generation rates in CalEEMod were used to estimate solid waste emissions related to the project. The project would indirectly result in GHG emissions from solid waste treatment at treatment plants (13 MT CO_2e).

Water Usage

Water-related energy use consumes 19 percent of California's electricity every year (CEC 2006). Energy use and related GHG emissions are based on electricity used for water supply and conveyance, water treatment, water distribution, and wastewater treatment. The project would result in increased GHG emissions from off-site electricity generation at power plants and on-site natural gas consumption (73 MT CO_2e/year).

Ozone Depleting Substances

At present, there is a federal ban on chlorofluorocarbons (CFCs); therefore, it is assumed the project would not generate emissions of CFCs. The project may emit a small amount of HFCs from leakage and service of refrigeration and air-conditioning equipment and from disposal at the end of the life of the equipment. However, the details regarding refrigerants to be used at the project site are unknown at this time. PFCs and SF_6 are typically used in industrial applications, neither of which would be used on the project site. Therefore, the project is not anticipated to contribute significant emissions of these additional GHGs.

Greenhouse Gas Analysis Summary

The proposed project would result in the generation of 1,300 MT CO_2e/year of GHG emissions. This emission level is less than the applicable SCAQMD GHG threshold of 3,500 MT CO_2e/year. Therefore, GHG emissions associated with the proposed project would be less than significant.

Long-Term Microscale (Carbon Monoxide Hot Spot) Analysis

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating

at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Ambient CO levels monitored at the Anaheim Station showed a highest recorded 1-hour concentration of 3.1 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 2.2 ppm (the State standard is 9 ppm) during the past 3 years (Table E). The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

Reduced speeds and vehicular congestion at intersections results in increased CO emissions. As described in the *Trip Generation for Proposed Transit Security and Operations Center* prepared for the proposed project (LIN Consulting 2018), with the addition of the proposed project in the existing setting and all future scenarios, vehicle speeds and vehicular congestion at all intersections surrounding the project site would not substantially degrade with the project.

Therefore, the project could be implemented in an existing setting with no significant peak-hour intersection impacts. Given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any surrounding intersections, project-related vehicles are not expected to contribute significantly to CO concentrations exceeding the State or federal CO standards. Because no CO hot spot would occur, there would be no project-related impacts on CO concentrations.

AIR QUALITY MANAGEMENT PLAN CONSISTENCY

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decisionmakers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategies being based on projections from local General Plans.

The AQMP is based on regional growth projections developed by SCAG. The proposed project is a Transit Security and Operations Center and is not defined as a regionally significant project under CEQA; therefore, it does not meet the SCAG's Intergovernmental Review criteria.

The proposed general commercial use of the site is consistent with the zoning designation for the project site and its surrounding area, which is consistent with the City's General Plan. The City's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD AQMP. Pursuant to the methodology provided in Chapter 12 of the 1993 SCAQMD *CEQA Air Quality Handbook*, consistency with the Basin 2016 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standard violation or cause a new violation and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented below:

1. The project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance emission thresholds established by SCAQMD, as demonstrated above; therefore, the project would not result in an increase in the frequency or severity of any air quality standard violation and will not cause a new air quality standard violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil-drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the proposed project is not defined as significant.

Based on the consistency analysis presented above, the proposed project is consistent with the City's General Plan and the regional AQMP.

STANDARD CONDITIONS

Construction

The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best-available control measures so the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source (SCAQMD 2005a). In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus, the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors (SCAQMD 2005a). As shown in Table H of this report, implementation of Rule 403 measures results in dust emissions below SCAQMD thresholds.

The applicable Rule 403 measures are as follows:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).

- Water active sites at least twice daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).

- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 ft (0.6 meter [m]) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.

- Pave construction access roads at least 100 ft (30 m) onto the site from the main road.

- Reduce traffic speeds on all unpaved roads to 15 mph or less.

The applicable CalRecycle Sustainable (Green) Building Program Measures are:

- Recycle/reuse at least 60 percent of construction materials (including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard).

- Use "green building materials" (e.g., those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way) for at least 10 percent of the project, as specified on the CalRecycle website.[1]

CUMULATIVE IMPACTS

The cumulative impacts analysis is based on projections in the regional AQMP. As described in the consistency analysis presented above, the proposed project is consistent with the growth assumptions in the City's General Plan, the 2016 RTP/SCS, and the regional AQMP. Further, the project does not increase the frequency or severity of an air quality standards violation or cause a new violation. Therefore, the proposed project would not result in a significant long-term cumulative impact.

[1] CalRecycle. Website: http://www.calrecycle.ca.gov (accessed July 2018).

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APPENDIX A

CALEEMOD PRINTOUTS

OCTA Transit Security and Operations Center

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	27.00	1000sqft	1.02	27,000.00	0
Parking Lot	176.00	Space	1.98	70,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2020
Utility Company	Anaheim Public Utilities				
CO2 Intensity (lb/MWhr)	1543.28	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project plans for general office building and parking lot on a 3 acre site.

Demolition -

Grading -

Vehicle Trips - Proportioned Peak Trip Rate from traffic study for weekdays and applied to Saturday and Sunday trip rates.

Architectural Coating - All architectural coatings assumed to comply with SCAQMD Rule 1113

Area Coating - All architectural coatings assumed to comply with SCAQMD Rule 1113

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Area Mitigation - All architectural coatings assumed to comply with SCAQMD Rule 1113.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblGrading	MaterialExported	0.00	6,535.00
tblGrading	MaterialImported	0.00	1,935.00
tblLandUse	LotAcreage	0.62	1.02
tblLandUse	LotAcreage	1.58	1.98
tblVehicleTrips	ST_TR	2.46	7.60
tblVehicleTrips	SU_TR	1.05	3.24
tblVehicleTrips	WD_TR	11.03	34.07

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3610	3.2461	2.4937	4.8500e-003	0.1211	0.1735	0.2946	0.0443	0.1628	0.2071	0.0000	436.2138	436.2138	0.0878	0.0000	438.4095
2020	0.0551	6.8200e-003	8.3200e-003	2.0000e-005	3.5000e-004	4.5000e-004	8.0000e-004	9.0000e-005	4.5000e-004	5.4000e-004	0.0000	1.3254	1.3254	9.0000e-005	0.0000	1.3275
Maximum	**0.3610**	**3.2461**	**2.4937**	**4.8500e-003**	**0.1211**	**0.1735**	**0.2946**	**0.0443**	**0.1628**	**0.2071**	**0.0000**	**436.2138**	**436.2138**	**0.0878**	**0.0000**	**438.4095**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3610	3.2461	2.4937	4.8500e-003	0.0919	0.1735	0.2654	0.0301	0.1628	0.1929	0.0000	436.2134	436.2134	0.0878	0.0000	438.4091
2020	0.0551	6.8200e-003	8.3200e-003	2.0000e-005	3.5000e-004	4.5000e-004	8.0000e-004	9.0000e-005	4.5000e-004	5.4000e-004	0.0000	1.3254	1.3254	9.0000e-005	0.0000	1.3275
Maximum	**0.3610**	**3.2461**	**2.4937**	**4.8500e-003**	**0.0919**	**0.1735**	**0.2654**	**0.0301**	**0.1628**	**0.1929**	**0.0000**	**436.2134**	**436.2134**	**0.0878**	**0.0000**	**438.4091**

	ROG	NOx	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**	**24.02**	**0.00**	**9.87**	**32.13**	**0.00**	**6.87**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	1.1312	1.1312
2	4-1-2019	6-30-2019	0.8312	0.8312
3	7-1-2019	9-30-2019	0.8403	0.8403
4	10-1-2019	12-31-2019	0.7727	0.7727
5	1-1-2020	3-31-2020	0.0553	0.0553
		Highest	1.1312	1.1312

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1159	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0400e-003	5.0400e-003	1.0000e-005	0.0000	5.3800e-003
Energy	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	294.8362	294.8362	5.5500e-003	1.3400e-003	295.3731
Mobile	0.2033	0.9026	2.7433	9.8100e-003	0.8538	9.9300e-003	0.8637	0.2287	9.3100e-003	0.2380	0.0000	902.6696	902.6696	0.0388	0.0000	903.6407
Waste						0.0000	0.0000		0.0000	0.0000	5.0971	0.0000	5.0971	0.3012	0.0000	12.6279
Water						0.0000	0.0000		0.0000	0.0000	1.5224	66.6154	68.1378	0.1576	3.9500e-003	73.2558
Total	**0.3204**	**0.9147**	**2.7561**	**9.8800e-003**	**0.8538**	**0.0109**	**0.8647**	**0.2287**	**0.0102**	**0.2389**	**6.6195**	**1,264.1262**	**1,270.7458**	**0.5033**	**5.2900e-003**	**1,284.9028**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1159	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0400e-003	5.0400e-003	1.0000e-005	0.0000	5.3800e-003
Energy	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	294.8362	294.8362	5.5500e-003	1.3400e-003	295.3731
Mobile	0.2033	0.9026	2.7433	9.8100e-003	0.8538	9.9300e-003	0.8637	0.2287	9.3100e-003	0.2380	0.0000	902.6696	902.6696	0.0388	0.0000	903.6407
Waste						0.0000	0.0000		0.0000	0.0000	5.0971	0.0000	5.0971	0.3012	0.0000	12.6279
Water						0.0000	0.0000		0.0000	0.0000	1.5224	66.6154	68.1378	0.1576	3.9500e-003	73.2558
Total	**0.3204**	**0.9147**	**2.7561**	**9.8800e-003**	**0.8538**	**0.0109**	**0.8647**	**0.2287**	**0.0102**	**0.2389**	**6.6195**	**1,264.1262**	**1,270.7458**	**0.5033**	**5.2900e-003**	**1,284.9028**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	1/31/2019	5	3	
3	Grading	Grading	2/1/2019	2/8/2019	5	6	
4	Building Construction	Building Construction	2/9/2019	12/13/2019	5	220	
5	Paving	Paving	12/14/2019	12/27/2019	5	10	
6	Architectural Coating	Architectural Coating	12/28/2019	1/10/2020	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.98

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 40,500; Non-Residential Outdoor: 13,500; Striped Parking Area: 4,224 (Architectural Coating – sqft)

OffRoad Equipment

OCTA Transit Security and Operations Center - Orange County, Annual

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	Cement and Mortar Mixers	2	6.00	9	0.56
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
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	53.00	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	817.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	38.00	16.00	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	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved 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	tons/yr										MT/yr					
Fugitive Dust					5.7800e-003	0.0000	5.7800e-003	8.7000e-004	0.0000	8.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**	**5.7800e-003**	**0.0180**	**0.0237**	**8.7000e-004**	**0.0167**	**0.0176**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2000e-004	8.1100e-003	1.9300e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	2.0608	2.0608	2.2000e-004	0.0000	2.0662
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.6000e-004	5.0700e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4724	1.4724	4.0000e-005	0.0000	1.4733
Total	**8.5000e-004**	**8.5700e-003**	**7.0000e-003**	**4.0000e-005**	**2.1000e-003**	**4.0000e-005**	**2.1400e-003**	**5.6000e-004**	**4.0000e-005**	**6.0000e-004**	**0.0000**	**3.5332**	**3.5332**	**2.6000e-004**	**0.0000**	**3.5396**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6000e-003	0.0000	2.6000e-003	3.9000e-004	0.0000	3.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**	**2.6000e-003**	**0.0180**	**0.0206**	**3.9000e-004**	**0.0167**	**0.0171**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2000e-004	8.1100e-003	1.9300e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	2.0608	2.0608	2.2000e-004	0.0000	2.0662
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.6000e-004	5.0700e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4724	1.4724	4.0000e-005	0.0000	1.4733
Total	**8.5000e-004**	**8.5700e-003**	**7.0000e-003**	**4.0000e-005**	**2.1000e-003**	**4.0000e-005**	**2.1400e-003**	**5.6000e-004**	**4.0000e-005**	**6.0000e-004**	**0.0000**	**3.5332**	**3.5332**	**2.6000e-004**	**0.0000**	**3.5396**

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	tons/yr										MT/yr					
Fugitive Dust					0.0271	0.0000	0.0271	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-003	0.0684	0.0331	6.0000e-005		3.5900e-003	3.5900e-003		3.3000e-003	3.3000e-003	0.0000	5.1253	5.1253	1.6200e-003	0.0000	5.1658
Total	**6.5000e-003**	**0.0684**	**0.0331**	**6.0000e-005**	**0.0271**	**3.5900e-003**	**0.0307**	**0.0149**	**3.3000e-003**	**0.0182**	**0.0000**	**5.1253**	**5.1253**	**1.6200e-003**	**0.0000**	**5.1658**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	9.1000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2650	0.2650	1.0000e-005	0.0000	0.2652
Total	**1.1000e-004**	**8.0000e-005**	**9.1000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2650**	**0.2650**	**1.0000e-005**	**0.0000**	**0.2652**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0122	0.0000	0.0122	6.7000e-003	0.0000	6.7000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-003	0.0684	0.0331	6.0000e-005		3.5900e-003	3.5900e-003		3.3000e-003	3.3000e-003	0.0000	5.1253	5.1253	1.6200e-003	0.0000	5.1658
Total	**6.5000e-003**	**0.0684**	**0.0331**	**6.0000e-005**	**0.0122**	**3.5900e-003**	**0.0158**	**6.7000e-003**	**3.3000e-003**	**0.0100**	**0.0000**	**5.1253**	**5.1253**	**1.6200e-003**	**0.0000**	**5.1658**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	9.1000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2650	0.2650	1.0000e-005	0.0000	0.2652
Total	**1.1000e-004**	**8.0000e-005**	**9.1000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2650**	**0.2650**	**1.0000e-005**	**0.0000**	**0.2652**

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	tons/yr										MT/yr					
Fugitive Dust					0.0201	0.0000	0.0201	0.0102	0.0000	0.0102	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7400e-003	0.0850	0.0489	9.0000e-005		4.1900e-003	4.1900e-003		3.8600e-003	3.8600e-003	0.0000	7.9927	7.9927	2.5300e-003	0.0000	8.0559
Total	**7.7400e-003**	**0.0850**	**0.0489**	**9.0000e-005**	**0.0201**	**4.1900e-003**	**0.0243**	**0.0102**	**3.8600e-003**	**0.0140**	**0.0000**	**7.9927**	**7.9927**	**2.5300e-003**	**0.0000**	**8.0559**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4300e-003	0.1251	0.0298	3.1000e-004	7.0000e-003	4.7000e-004	7.4700e-003	1.9200e-003	4.5000e-004	2.3700e-003	0.0000	31.7667	31.7667	3.3700e-003	0.0000	31.8511
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.5200e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4417	0.4417	1.0000e-005	0.0000	0.4420
Total	**3.6200e-003**	**0.1252**	**0.0313**	**3.1000e-004**	**7.4900e-003**	**4.7000e-004**	**7.9700e-003**	**2.0500e-003**	**4.5000e-004**	**2.5000e-003**	**0.0000**	**32.2084**	**32.2084**	**3.3800e-003**	**0.0000**	**32.2931**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0600e-003	0.0000	9.0600e-003	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7400e-003	0.0850	0.0489	9.0000e-005		4.1900e-003	4.1900e-003		3.8600e-003	3.8600e-003	0.0000	7.9927	7.9927	2.5300e-003	0.0000	8.0559
Total	**7.7400e-003**	**0.0850**	**0.0489**	**9.0000e-005**	**9.0600e-003**	**4.1900e-003**	**0.0133**	**4.5800e-003**	**3.8600e-003**	**8.4400e-003**	**0.0000**	**7.9927**	**7.9927**	**2.5300e-003**	**0.0000**	**8.0559**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4300e-003	0.1251	0.0298	3.1000e-004	7.0000e-003	4.7000e-004	7.4700e-003	1.9200e-003	4.5000e-004	2.3700e-003	0.0000	31.7667	31.7667	3.3700e-003	0.0000	31.8511
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.5200e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4417	0.4417	1.0000e-005	0.0000	0.4420
Total	**3.6200e-003**	**0.1252**	**0.0313**	**3.1000e-004**	**7.4900e-003**	**4.7000e-004**	**7.9700e-003**	**2.0500e-003**	**4.5000e-004**	**2.5000e-003**	**0.0000**	**32.2084**	**32.2084**	**3.3800e-003**	**0.0000**	**32.2931**

3.5 Building Construction - 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	tons/yr										MT/yr					
Off-Road	0.2597	2.3187	1.8880	2.9600e-003		0.1419	0.1419		0.1334	0.1334	0.0000	258.6146	258.6146	0.0630	0.0000	260.1896
Total	**0.2597**	**2.3187**	**1.8880**	**2.9600e-003**		**0.1419**	**0.1419**		**0.1334**	**0.1334**	**0.0000**	**258.6146**	**258.6146**	**0.0630**	**0.0000**	**260.1896**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.7200e-003	0.2037	0.0554	4.4000e-004	0.0111	1.3600e-003	0.0124	3.2000e-003	1.3000e-003	4.5000e-003	0.0000	43.1399	43.1399	3.7700e-003	0.0000	43.2341
Worker	0.0175	0.0127	0.1414	4.5000e-004	0.0459	3.1000e-004	0.0462	0.0122	2.9000e-004	0.0125	0.0000	41.0317	41.0317	1.0100e-003	0.0000	41.0569
Total	**0.0242**	**0.2164**	**0.1968**	**8.9000e-004**	**0.0570**	**1.6700e-003**	**0.0586**	**0.0154**	**1.5900e-003**	**0.0170**	**0.0000**	**84.1716**	**84.1716**	**4.7800e-003**	**0.0000**	**84.2910**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2597	2.3187	1.8880	2.9600e-003		0.1419	0.1419		0.1334	0.1334	0.0000	258.6143	258.6143	0.0630	0.0000	260.1893
Total	**0.2597**	**2.3187**	**1.8880**	**2.9600e-003**		**0.1419**	**0.1419**		**0.1334**	**0.1334**	**0.0000**	**258.6143**	**258.6143**	**0.0630**	**0.0000**	**260.1893**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.7200e-003	0.2037	0.0554	4.4000e-004	0.0111	1.3600e-003	0.0124	3.2000e-003	1.3000e-003	4.5000e-003	0.0000	43.1399	43.1399	3.7700e-003	0.0000	43.2341
Worker	0.0175	0.0127	0.1414	4.5000e-004	0.0459	3.1000e-004	0.0462	0.0122	2.9000e-004	0.0125	0.0000	41.0317	41.0317	1.0100e-003	0.0000	41.0569
Total	**0.0242**	**0.2164**	**0.1968**	**8.9000e-004**	**0.0570**	**1.6700e-003**	**0.0586**	**0.0154**	**1.5900e-003**	**0.0170**	**0.0000**	**84.1716**	**84.1716**	**4.7800e-003**	**0.0000**	**84.2910**

3.6 Paving - 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	tons/yr										MT/yr					
Off-Road	6.3400e-003	0.0638	0.0616	9.0000e-005		3.6000e-003	3.6000e-003		3.3200e-003	3.3200e-003	0.0000	8.3612	8.3612	2.5700e-003	0.0000	8.4255
Paving	2.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.9300e-003**	**0.0638**	**0.0616**	**9.0000e-005**		**3.6000e-003**	**3.6000e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**8.3612**	**8.3612**	**2.5700e-003**	**0.0000**	**8.4255**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.3800e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9816	0.9816	2.0000e-005	0.0000	0.9822
Total	**4.2000e-004**	**3.0000e-004**	**3.3800e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.9816**	**0.9816**	**2.0000e-005**	**0.0000**	**0.9822**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3400e-003	0.0638	0.0616	9.0000e-005		3.6000e-003	3.6000e-003		3.3200e-003	3.3200e-003	0.0000	8.3611	8.3611	2.5700e-003	0.0000	8.4255
Paving	2.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.9300e-003**	**0.0638**	**0.0616**	**9.0000e-005**		**3.6000e-003**	**3.6000e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**8.3611**	**8.3611**	**2.5700e-003**	**0.0000**	**8.4255**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.3800e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9816	0.9816	2.0000e-005	0.0000	0.9822
Total	**4.2000e-004**	**3.0000e-004**	**3.3800e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.9816**	**0.9816**	**2.0000e-005**	**0.0000**	**0.9822**

3.7 Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	0.0135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0138**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0785	0.0785	0.0000	0.0000	0.0786
Total	**3.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0785**	**0.0785**	**0.0000**	**0.0000**	**0.0786**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.8400e-003	1.8400e-003	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2559
Total	**0.0138**	**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2559**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0785	0.0785	0.0000	0.0000	0.0786
Total	**3.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0785**	**0.0785**	**0.0000**	**0.0000**	**0.0786**

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	tons/yr										MT/yr					
Archit. Coating	0.0540					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.0549**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	9.9000e-004	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3041	0.3041	1.0000e-005	0.0000	0.3042
Total	**1.2000e-004**	**9.0000e-005**	**9.9000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3041**	**0.3041**	**1.0000e-005**	**0.0000**	**0.3042**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0540					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	6.7400e-003	7.3300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	1.0213	1.0213	8.0000e-005	0.0000	1.0233
Total	**0.0549**	**6.7400e-003**	**7.3300e-003**	**1.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.0213**	**1.0213**	**8.0000e-005**	**0.0000**	**1.0233**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	9.9000e-004	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3041	0.3041	1.0000e-005	0.0000	0.3042
Total	**1.2000e-004**	**9.0000e-005**	**9.9000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3041**	**0.3041**	**1.0000e-005**	**0.0000**	**0.3042**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2033	0.9026	2.7433	9.8100e-003	0.8538	9.9300e-003	0.8637	0.2287	9.3100e-003	0.2380	0.0000	902.6696	902.6696	0.0388	0.0000	903.6407
Unmitigated	0.2033	0.9026	2.7433	9.8100e-003	0.8538	9.9300e-003	0.8637	0.2287	9.3100e-003	0.2380	0.0000	902.6696	902.6696	0.0388	0.0000	903.6407

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	919.89	205.20	87.48	2,251,401	2,251,401
Parking Lot	0.00	0.00	0.00		
Total	919.89	205.20	87.48	2,251,401	2,251,401

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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
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
General Office Building	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Parking Lot	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	281.6671	281.6671	5.2900e-003	1.1000e-003	282.1257
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	281.6671	281.6671	5.2900e-003	1.1000e-003	282.1257
NaturalGas Mitigated	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1691	13.1691	2.5000e-004	2.4000e-004	13.2474
NaturalGas Unmitigated	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1691	13.1691	2.5000e-004	2.4000e-004	13.2474

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	246780	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1691	13.1691	2.5000e-004	2.4000e-004	13.2474
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.3300e-003**	**0.0121**	**0.0102**	**7.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**13.1691**	**13.1691**	**2.5000e-004**	**2.4000e-004**	**13.2474**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	246780	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1691	13.1691	2.5000e-004	2.4000e-004	13.2474
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.3300e-003**	**0.0121**	**0.0102**	**7.0000e-005**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**13.1691**	**13.1691**	**2.5000e-004**	**2.4000e-004**	**13.2474**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	377730	264.4186	4.9700e-003	1.0300e-003	264.8491
Parking Lot	24640	17.2485	3.2000e-004	7.0000e-005	17.2766
Total		**281.6671**	**5.2900e-003**	**1.1000e-003**	**282.1257**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	377730	264.4186	4.9700e-003	1.0300e-003	264.8491
Parking Lot	24640	17.2485	3.2000e-004	7.0000e-005	17.2766
Total		**281.6671**	**5.2900e-003**	**1.1000e-003**	**282.1257**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1159	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0400e-003	5.0400e-003	1.0000e-005	0.0000	5.3800e-003
Unmitigated	0.1159	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0400e-003	5.0400e-003	1.0000e-005	0.0000	5.3800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1021					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0400e-003	5.0400e-003	1.0000e-005	0.0000	5.3800e-003
Total	**0.1159**	**2.0000e-005**	**2.6100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.0400e-003**	**5.0400e-003**	**1.0000e-005**	**0.0000**	**5.3800e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1021					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0400e-003	5.0400e-003	1.0000e-005	0.0000	5.3800e-003
Total	**0.1159**	**2.0000e-005**	**2.6100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.0400e-003**	**5.0400e-003**	**1.0000e-005**	**0.0000**	**5.3800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	68.1378	0.1576	3.9500e-003	73.2558
Unmitigated	68.1378	0.1576	3.9500e-003	73.2558

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	4.79881 / 2.94121	68.1378	0.1576	3.9500e-003	73.2558
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**68.1378**	**0.1576**	**3.9500e-003**	**73.2558**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	4.79881 / 2.94121	68.1378	0.1576	3.9500e-003	73.2558
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**68.1378**	**0.1576**	**3.9500e-003**	**73.2558**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.0971	0.3012	0.0000	12.6279
Unmitigated	5.0971	0.3012	0.0000	12.6279

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	25.11	5.0971	0.3012	0.0000	12.6279
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**5.0971**	**0.3012**	**0.0000**	**12.6279**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	25.11	5.0971	0.3012	0.0000	12.6279
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**5.0971**	**0.3012**	**0.0000**	**12.6279**

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

OCTA Transit Security and Operations Center

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	27.00	1000sqft	1.02	27,000.00	0
Parking Lot	176.00	Space	1.98	70,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2020
Utility Company	Anaheim Public Utilities				
CO2 Intensity (lb/MWhr)	1543.28	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project plans for general office building and parking lot on a 3 acre site.

Demolition -

Grading -

Vehicle Trips - Proportioned Peak Trip Rate from traffic study for weekdays and applied to Saturday and Sunday trip rates.

Architectural Coating - All architectural coatings assumed to comply with SCAQMD Rule 1113

Area Coating - All architectural coatings assumed to comply with SCAQMD Rule 1113

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Area Mitigation - All architectural coatings assumed to comply with SCAQMD Rule 1113.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblGrading	MaterialExported	0.00	6,535.00
tblGrading	MaterialImported	0.00	1,935.00
tblLandUse	LotAcreage	0.62	1.02
tblLandUse	LotAcreage	1.58	1.98
tblVehicleTrips	ST_TR	2.46	7.60
tblVehicleTrips	SU_TR	1.05	3.24
tblVehicleTrips	WD_TR	11.03	34.07

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	13.7928	68.7504	26.5046	0.1370	18.2675	2.3917	20.6592	9.9840	2.2004	12.1844	0.0000	14,851.0917	14,851.0917	2.1595	0.0000	14,905.0783
2020	13.7663	1.7032	2.0933	3.8400e-003	0.0894	0.1115	0.2010	0.0237	0.1115	0.1352	0.0000	368.6515	368.6515	0.0238	0.0000	369.2460
Maximum	**13.7928**	**68.7504**	**26.5046**	**0.1370**	**18.2675**	**2.3917**	**20.6592**	**9.9840**	**2.2004**	**12.1844**	**0.0000**	**14,851.0917**	**14,851.0917**	**2.1595**	**0.0000**	**14,905.0783**

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	13.7928	68.7504	26.5046	0.1370	8.3310	2.3917	10.7227	4.5222	2.2004	6.7225	0.0000	14,851.0917	14,851.0917	2.1595	0.0000	14,905.0783
2020	13.7663	1.7032	2.0933	3.8400e-003	0.0894	0.1115	0.2010	0.0237	0.1115	0.1352	0.0000	368.6515	368.6515	0.0238	0.0000	369.2460
Maximum	**13.7928**	**68.7504**	**26.5046**	**0.1370**	**8.3310**	**2.3917**	**10.7227**	**4.5222**	**2.2004**	**6.7225**	**0.0000**	**14,851.0917**	**14,851.0917**	**2.1595**	**0.0000**	**14,905.0783**

	ROG	NOx	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**	**54.13**	**0.00**	**47.63**	**54.58**	**0.00**	**44.33**	**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	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Energy	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
Mobile	1.5365	6.2217	20.4398	0.0734	6.2855	0.0717	6.3572	1.6808	0.0673	1.7481		7,441.4581	7,441.4581	0.3118		7,449.2520
Total	**2.1792**	**6.2881**	**20.5164**	**0.0738**	**6.2855**	**0.0769**	**6.3623**	**1.6808**	**0.0724**	**1.7532**		**7,521.0448**	**7,521.0448**	**0.3134**	**1.4600e-003**	**7,529.3144**

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	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Energy	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
Mobile	1.5365	6.2217	20.4398	0.0734	6.2855	0.0717	6.3572	1.6808	0.0673	1.7481		7,441.4581	7,441.4581	0.3118		7,449.2520
Total	**2.1792**	**6.2881**	**20.5164**	**0.0738**	**6.2855**	**0.0769**	**6.3623**	**1.6808**	**0.0724**	**1.7532**		**7,521.0448**	**7,521.0448**	**0.3134**	**1.4600e-003**	**7,529.3144**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	1/31/2019	5	3	
3	Grading	Grading	2/1/2019	2/8/2019	5	6	
4	Building Construction	Building Construction	2/9/2019	12/13/2019	5	220	
5	Paving	Paving	12/14/2019	12/27/2019	5	10	
6	Architectural Coating	Architectural Coating	12/28/2019	1/10/2020	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.98

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 40,500; Non-Residential Outdoor: 13,500; Striped Parking Area: 4,224 (Architectural Coating – sqft)

OffRoad Equipment

OCTA Transit Security and Operations Center - Orange County, Summer

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	Cement and Mortar Mixers	2	6.00	9	0.56
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
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	53.00	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	817.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	38.00	16.00	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	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved 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					0.5778	0.0000	0.5778	0.0875	0.0000	0.0875			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**	**0.5778**	**1.7949**	**2.3727**	**0.0875**	**1.6697**	**1.7572**		**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

3.2 Demolition - 2019

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	0.0220	0.7855	0.1883	2.0600e-003	0.0461	3.0200e-003	0.0492	0.0126	2.8900e-003	0.0155		228.5818	228.5818	0.0239		229.1783
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	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		168.9210	168.9210	4.1500e-003		169.0249
Total	**0.0839**	**0.8260**	**0.7234**	**3.7500e-003**	**0.2138**	**4.1400e-003**	**0.2179**	**0.0571**	**3.9200e-003**	**0.0610**		**397.5028**	**397.5028**	**0.0280**		**398.2032**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2600	0.0000	0.2600	0.0394	0.0000	0.0394			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**	**0.2600**	**1.7949**	**2.0549**	**0.0394**	**1.6697**	**1.7090**	**0.0000**	**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

3.2 Demolition - 2019

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	0.0220	0.7855	0.1883	2.0600e-003	0.0461	3.0200e-003	0.0492	0.0126	2.8900e-003	0.0155		228.5818	228.5818	0.0239		229.1783
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	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		168.9210	168.9210	4.1500e-003		169.0249
Total	**0.0839**	**0.8260**	**0.7234**	**3.7500e-003**	**0.2138**	**4.1400e-003**	**0.2179**	**0.0571**	**3.9200e-003**	**0.0610**		**397.5028**	**397.5028**	**0.0280**		**398.2032**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			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**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.3 Site Preparation - 2019

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	0.0742	0.0486	0.6421	2.0300e-003	0.2012	1.3400e-003	0.2025	0.0534	1.2400e-003	0.0546		202.7053	202.7053	4.9800e-003		202.8298
Total	**0.0742**	**0.0486**	**0.6421**	**2.0300e-003**	**0.2012**	**1.3400e-003**	**0.2025**	**0.0534**	**1.2400e-003**	**0.0546**		**202.7053**	**202.7053**	**4.9800e-003**		**202.8298**

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			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**	**8.1298**	**2.3904**	**10.5202**	**4.4688**	**2.1991**	**6.6679**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.3 Site Preparation - 2019

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	0.0742	0.0486	0.6421	2.0300e-003	0.2012	1.3400e-003	0.2025	0.0534	1.2400e-003	0.0546		202.7053	202.7053	4.9800e-003		202.8298
Total	**0.0742**	**0.0486**	**0.6421**	**2.0300e-003**	**0.2012**	**1.3400e-003**	**0.2025**	**0.0534**	**1.2400e-003**	**0.0546**		**202.7053**	**202.7053**	**4.9800e-003**		**202.8298**

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					6.7120	0.0000	6.7120	3.3917	0.0000	3.3917			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**	**6.7120**	**1.3974**	**8.1093**	**3.3917**	**1.2856**	**4.6772**		**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1319	40.3619	9.6761	0.1057	2.3711	0.1550	2.5261	0.6491	0.1483	0.7974		11,745.3639	11,745.3639	1.2261		11,776.0173
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	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		168.9210	168.9210	4.1500e-003		169.0249
Total	**1.1937**	**40.4024**	**10.2112**	**0.1073**	**2.5387**	**0.1561**	**2.6948**	**0.6936**	**0.1493**	**0.8429**		**11,914.2849**	**11,914.2849**	**1.2303**		**11,945.0422**

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					3.0204	0.0000	3.0204	1.5263	0.0000	1.5263			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**	**3.0204**	**1.3974**	**4.4178**	**1.5263**	**1.2856**	**2.8118**	**0.0000**	**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1319	40.3619	9.6761	0.1057	2.3711	0.1550	2.5261	0.6491	0.1483	0.7974		11,745.3639	11,745.3639	1.2261		11,776.0173
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	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		168.9210	168.9210	4.1500e-003		169.0249
Total	**1.1937**	**40.4024**	**10.2112**	**0.1073**	**2.5387**	**0.1561**	**2.6948**	**0.6936**	**0.1493**	**0.8429**		**11,914.2849**	**11,914.2849**	**1.2303**		**11,945.0422**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.0600	1.8157	0.4800	4.0200e-003	0.1022	0.0123	0.1145	0.0294	0.0117	0.0412		436.7502	436.7502	0.0369		437.6720
Worker	0.1566	0.1027	1.3556	4.2900e-003	0.4248	2.8400e-003	0.4276	0.1127	2.6100e-003	0.1153		427.9333	427.9333	0.0105		428.1963
Total	**0.2166**	**1.9184**	**1.8356**	**8.3100e-003**	**0.5270**	**0.0151**	**0.5421**	**0.1421**	**0.0143**	**0.1564**		**864.6835**	**864.6835**	**0.0474**		**865.8683**

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.0600	1.8157	0.4800	4.0200e-003	0.1022	0.0123	0.1145	0.0294	0.0117	0.0412		436.7502	436.7502	0.0369		437.6720
Worker	0.1566	0.1027	1.3556	4.2900e-003	0.4248	2.8400e-003	0.4276	0.1127	2.6100e-003	0.1153		427.9333	427.9333	0.0105		428.1963
Total	**0.2166**	**1.9184**	**1.8356**	**8.3100e-003**	**0.5270**	**0.0151**	**0.5421**	**0.1421**	**0.0143**	**0.1564**		**864.6835**	**864.6835**	**0.0474**		**865.8683**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.5188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7867**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**		**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

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	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

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	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.5188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7867**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**	**0.0000**	**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

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	0.0824	0.0541	0.7135	2.2600e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		225.2281	225.2281	5.5400e-003		225.3665
Total	**0.0824**	**0.0541**	**0.7135**	**2.2600e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**225.2281**	**225.2281**	**5.5400e-003**		**225.3665**

3.7 Architectural Coating - 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					
Archit. Coating	13.4934					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**13.7599**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.0330	0.0216	0.2854	9.0000e-004	0.0894	6.0000e-004	0.0900	0.0237	5.5000e-004	0.0243		90.0912	90.0912	2.2100e-003		90.1466
Total	**0.0330**	**0.0216**	**0.2854**	**9.0000e-004**	**0.0894**	**6.0000e-004**	**0.0900**	**0.0237**	**5.5000e-004**	**0.0243**		**90.0912**	**90.0912**	**2.2100e-003**		**90.1466**

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	13.4934					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**13.7599**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.0330	0.0216	0.2854	9.0000e-004	0.0894	6.0000e-004	0.0900	0.0237	5.5000e-004	0.0243		90.0912	90.0912	2.2100e-003		90.1466
Total	**0.0330**	**0.0216**	**0.2854**	**9.0000e-004**	**0.0894**	**6.0000e-004**	**0.0900**	**0.0237**	**5.5000e-004**	**0.0243**		**90.0912**	**90.0912**	**2.2100e-003**		**90.1466**

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	13.4934					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	**13.7356**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0307**	**0.0194**	**0.2619**	**8.7000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**87.2035**	**87.2035**	**1.9900e-003**		**87.2532**

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	13.4934					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	**13.7356**	**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**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0307**	**0.0194**	**0.2619**	**8.7000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**87.2035**	**87.2035**	**1.9900e-003**		**87.2532**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5365	6.2217	20.4398	0.0734	6.2855	0.0717	6.3572	1.6808	0.0673	1.7481		7,441.4581	7,441.4581	0.3118		7,449.2520
Unmitigated	1.5365	6.2217	20.4398	0.0734	6.2855	0.0717	6.3572	1.6808	0.0673	1.7481		7,441.4581	7,441.4581	0.3118		7,449.2520

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	919.89	205.20	87.48	2,251,401	2,251,401
Parking Lot	0.00	0.00	0.00		
Total	919.89	205.20	87.48	2,251,401	2,251,401

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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
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
General Office Building	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Parking Lot	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
NaturalGas Unmitigated	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	676.11	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
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		**7.2900e-003**	**0.0663**	**0.0557**	**4.0000e-004**		**5.0400e-003**	**5.0400e-003**		**5.0400e-003**	**5.0400e-003**		**79.5423**	**79.5423**	**1.5200e-003**	**1.4600e-003**	**80.0150**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.67611	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
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		**7.2900e-003**	**0.0663**	**0.0557**	**4.0000e-004**		**5.0400e-003**	**5.0400e-003**		**5.0400e-003**	**5.0400e-003**		**79.5423**	**79.5423**	**1.5200e-003**	**1.4600e-003**	**80.0150**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Unmitigated	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474

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	0.0739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5595					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9600e-003	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Total	**0.6354**	**1.9000e-004**	**0.0209**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0444**	**0.0444**	**1.2000e-004**		**0.0474**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5595					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9600e-003	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Total	**0.6354**	**1.9000e-004**	**0.0209**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0444**	**0.0444**	**1.2000e-004**		**0.0474**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

OCTA Transit Security and Operations Center

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	27.00	1000sqft	1.02	27,000.00	0
Parking Lot	176.00	Space	1.98	70,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2020
Utility Company	Anaheim Public Utilities				
CO2 Intensity (lb/MWhr)	1543.28	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project plans for general office building and parking lot on a 3 acre site.

Demolition -

Grading -

Vehicle Trips - Proportioned Peak Trip Rate from traffic study for weekdays and applied to Saturday and Sunday trip rates.

Architectural Coating - All architectural coatings assumed to comply with SCAQMD Rule 1113

Area Coating - All architectural coatings assumed to comply with SCAQMD Rule 1113

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Area Mitigation - All architectural coatings assumed to comply with SCAQMD Rule 1113.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblGrading	MaterialExported	0.00	6,535.00
tblGrading	MaterialImported	0.00	1,935.00
tblLandUse	LotAcreage	0.62	1.02
tblLandUse	LotAcreage	1.58	1.98
tblVehicleTrips	ST_TR	2.46	7.60
tblVehicleTrips	SU_TR	1.05	3.24
tblVehicleTrips	WD_TR	11.03	34.07

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	13.7971	69.2850	27.0324	0.1353	18.2675	2.3917	20.6592	9.9840	2.2004	12.1844	0.0000	14,667.9862	14,667.9862	2.1908	0.0000	14,722.7561
2020	13.7703	1.7051	2.0735	3.8000e-003	0.0894	0.1115	0.2010	0.0237	0.1115	0.1352	0.0000	363.9777	363.9777	0.0237	0.0000	364.5696
Maximum	**13.7971**	**69.2850**	**27.0324**	**0.1353**	**18.2675**	**2.3917**	**20.6592**	**9.9840**	**2.2004**	**12.1844**	**0.0000**	**14,667.9862**	**14,667.9862**	**2.1908**	**0.0000**	**14,722.7561**

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	13.7971	69.2850	27.0324	0.1353	8.3310	2.3917	10.7227	4.5222	2.2004	6.7225	0.0000	14,667.9862	14,667.9862	2.1908	0.0000	14,722.7561
2020	13.7703	1.7051	2.0735	3.8000e-003	0.0894	0.1115	0.2010	0.0237	0.1115	0.1352	0.0000	363.9777	363.9777	0.0237	0.0000	364.5696
Maximum	**13.7971**	**69.2850**	**27.0324**	**0.1353**	**8.3310**	**2.3917**	**10.7227**	**4.5222**	**2.2004**	**6.7225**	**0.0000**	**14,667.9862**	**14,667.9862**	**2.1908**	**0.0000**	**14,722.7561**

	ROG	NOx	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**	**54.13**	**0.00**	**47.63**	**54.58**	**0.00**	**44.33**	**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	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Energy	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
Mobile	1.5138	6.4146	19.5825	0.0701	6.2855	0.0720	6.3575	1.6808	0.0676	1.7484		7,108.6239	7,108.6239	0.3104		7,116.3838
Total	**2.1565**	**6.4811**	**19.6591**	**0.0705**	**6.2855**	**0.0772**	**6.3626**	**1.6808**	**0.0727**	**1.7535**		**7,188.2106**	**7,188.2106**	**0.3120**	**1.4600e-003**	**7,196.4462**

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	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Energy	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
Mobile	1.5138	6.4146	19.5825	0.0701	6.2855	0.0720	6.3575	1.6808	0.0676	1.7484		7,108.6239	7,108.6239	0.3104		7,116.3838
Total	**2.1565**	**6.4811**	**19.6591**	**0.0705**	**6.2855**	**0.0772**	**6.3626**	**1.6808**	**0.0727**	**1.7535**		**7,188.2106**	**7,188.2106**	**0.3120**	**1.4600e-003**	**7,196.4462**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	1/31/2019	5	3	
3	Grading	Grading	2/1/2019	2/8/2019	5	6	
4	Building Construction	Building Construction	2/9/2019	12/13/2019	5	220	
5	Paving	Paving	12/14/2019	12/27/2019	5	10	
6	Architectural Coating	Architectural Coating	12/28/2019	1/10/2020	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.98

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 40,500; Non-Residential Outdoor: 13,500; Striped Parking Area: 4,224 (Architectural Coating – sqft)

OffRoad Equipment

OCTA Transit Security and Operations Center - Orange County, Winter

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	Cement and Mortar Mixers	2	6.00	9	0.56
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
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	53.00	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	817.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	38.00	16.00	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	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved 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					0.5778	0.0000	0.5778	0.0875	0.0000	0.0875			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**	**0.5778**	**1.7949**	**2.3727**	**0.0875**	**1.6697**	**1.7572**		**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

3.2 Demolition - 2019

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	0.0226	0.7958	0.1994	2.0300e-003	0.0461	3.0800e-003	0.0492	0.0126	2.9500e-003	0.0156		225.1945	225.1945	0.0245		225.8064
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	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		159.8661	159.8661	3.9400e-003		159.9645
Total	**0.0923**	**0.8404**	**0.6948**	**3.6300e-003**	**0.2138**	**4.2000e-003**	**0.2180**	**0.0571**	**3.9800e-003**	**0.0611**		**385.0605**	**385.0605**	**0.0284**		**385.7709**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2600	0.0000	0.2600	0.0394	0.0000	0.0394			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**	**0.2600**	**1.7949**	**2.0549**	**0.0394**	**1.6697**	**1.7090**	**0.0000**	**3,816.8994**	**3,816.8994**	**1.0618**		**3,843.4451**

3.2 Demolition - 2019

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	0.0226	0.7958	0.1994	2.0300e-003	0.0461	3.0800e-003	0.0492	0.0126	2.9500e-003	0.0156		225.1945	225.1945	0.0245		225.8064
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	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		159.8661	159.8661	3.9400e-003		159.9645
Total	**0.0923**	**0.8404**	**0.6948**	**3.6300e-003**	**0.2138**	**4.2000e-003**	**0.2180**	**0.0571**	**3.9800e-003**	**0.0611**		**385.0605**	**385.0605**	**0.0284**		**385.7709**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			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**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.3 Site Preparation - 2019

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	0.0837	0.0535	0.5945	1.9200e-003	0.2012	1.3400e-003	0.2025	0.0534	1.2400e-003	0.0546		191.8393	191.8393	4.7300e-003		191.9574
Total	**0.0837**	**0.0535**	**0.5945**	**1.9200e-003**	**0.2012**	**1.3400e-003**	**0.2025**	**0.0534**	**1.2400e-003**	**0.0546**		**191.8393**	**191.8393**	**4.7300e-003**		**191.9574**

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			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**	**8.1298**	**2.3904**	**10.5202**	**4.4688**	**2.1991**	**6.6679**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.3 Site Preparation - 2019

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	0.0837	0.0535	0.5945	1.9200e-003	0.2012	1.3400e-003	0.2025	0.0534	1.2400e-003	0.0546		191.8393	191.8393	4.7300e-003		191.9574
Total	**0.0837**	**0.0535**	**0.5945**	**1.9200e-003**	**0.2012**	**1.3400e-003**	**0.2025**	**0.0534**	**1.2400e-003**	**0.0546**		**191.8393**	**191.8393**	**4.7300e-003**		**191.9574**

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					6.7120	0.0000	6.7120	3.3917	0.0000	3.3917			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**	**6.7120**	**1.3974**	**8.1093**	**3.3917**	**1.2856**	**4.6772**		**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1615	40.8924	10.2436	0.1041	2.3711	0.1584	2.5295	0.6491	0.1516	0.8007		11,571.3134	11,571.3134	1.2577		11,602.7554
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	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		159.8661	159.8661	3.9400e-003		159.9645
Total	**1.2313**	**40.9370**	**10.7390**	**0.1057**	**2.5387**	**0.1595**	**2.6983**	**0.6936**	**0.1526**	**0.8462**		**11,731.1795**	**11,731.1795**	**1.2616**		**11,762.7200**

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					3.0204	0.0000	3.0204	1.5263	0.0000	1.5263			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**	**3.0204**	**1.3974**	**4.4178**	**1.5263**	**1.2856**	**2.8118**	**0.0000**	**2,936.8068**	**2,936.8068**	**0.9292**		**2,960.0361**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1615	40.8924	10.2436	0.1041	2.3711	0.1584	2.5295	0.6491	0.1516	0.8007		11,571.3134	11,571.3134	1.2577		11,602.7554
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	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		159.8661	159.8661	3.9400e-003		159.9645
Total	**1.2313**	**40.9370**	**10.7390**	**0.1057**	**2.5387**	**0.1595**	**2.6983**	**0.6936**	**0.1526**	**0.8462**		**11,731.1795**	**11,731.1795**	**1.2616**		**11,762.7200**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.0626	1.8176	0.5270	3.9200e-003	0.1022	0.0125	0.1147	0.0294	0.0120	0.0414		426.1682	426.1682	0.0388		427.1386
Worker	0.1767	0.1129	1.2551	4.0600e-003	0.4248	2.8400e-003	0.4276	0.1127	2.6100e-003	0.1153		404.9940	404.9940	9.9800e-003		405.2435
Total	**0.2392**	**1.9305**	**1.7821**	**7.9800e-003**	**0.5270**	**0.0153**	**0.5423**	**0.1421**	**0.0146**	**0.1566**		**831.1622**	**831.1622**	**0.0488**		**832.3820**

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.0626	1.8176	0.5270	3.9200e-003	0.1022	0.0125	0.1147	0.0294	0.0120	0.0414		426.1682	426.1682	0.0388		427.1386
Worker	0.1767	0.1129	1.2551	4.0600e-003	0.4248	2.8400e-003	0.4276	0.1127	2.6100e-003	0.1153		404.9940	404.9940	9.9800e-003		405.2435
Total	**0.2392**	**1.9305**	**1.7821**	**7.9800e-003**	**0.5270**	**0.0153**	**0.5423**	**0.1421**	**0.0146**	**0.1566**		**831.1622**	**831.1622**	**0.0488**		**832.3820**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.5188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7867**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**		**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

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	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

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	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.5188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7867**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**	**0.0000**	**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

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	0.0930	0.0594	0.6606	2.1400e-003	0.2236	1.4900e-003	0.2251	0.0593	1.3800e-003	0.0607		213.1547	213.1547	5.2500e-003		213.2860
Total	**0.0930**	**0.0594**	**0.6606**	**2.1400e-003**	**0.2236**	**1.4900e-003**	**0.2251**	**0.0593**	**1.3800e-003**	**0.0607**		**213.1547**	**213.1547**	**5.2500e-003**		**213.2860**

3.7 Architectural Coating - 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					
Archit. Coating	13.4934					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**13.7599**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.0372	0.0238	0.2642	8.6000e-004	0.0894	6.0000e-004	0.0900	0.0237	5.5000e-004	0.0243		85.2619	85.2619	2.1000e-003		85.3144
Total	**0.0372**	**0.0238**	**0.2642**	**8.6000e-004**	**0.0894**	**6.0000e-004**	**0.0900**	**0.0237**	**5.5000e-004**	**0.0243**		**85.2619**	**85.2619**	**2.1000e-003**		**85.3144**

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	13.4934					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**13.7599**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.0372	0.0238	0.2642	8.6000e-004	0.0894	6.0000e-004	0.0900	0.0237	5.5000e-004	0.0243		85.2619	85.2619	2.1000e-003		85.3144
Total	**0.0372**	**0.0238**	**0.2642**	**8.6000e-004**	**0.0894**	**6.0000e-004**	**0.0900**	**0.0237**	**5.5000e-004**	**0.0243**		**85.2619**	**85.2619**	**2.1000e-003**		**85.3144**

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	13.4934					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	**13.7356**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.0347**	**0.0213**	**0.2420**	**8.3000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**82.5297**	**82.5297**	**1.8800e-003**		**82.5768**

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	13.4934					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	**13.7356**	**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**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.0347**	**0.0213**	**0.2420**	**8.3000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**82.5297**	**82.5297**	**1.8800e-003**		**82.5768**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5138	6.4146	19.5825	0.0701	6.2855	0.0720	6.3575	1.6808	0.0676	1.7484		7,108.6239	7,108.6239	0.3104		7,116.3838
Unmitigated	1.5138	6.4146	19.5825	0.0701	6.2855	0.0720	6.3575	1.6808	0.0676	1.7484		7,108.6239	7,108.6239	0.3104		7,116.3838

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	919.89	205.20	87.48	2,251,401	2,251,401
Parking Lot	0.00	0.00	0.00		
Total	919.89	205.20	87.48	2,251,401	2,251,401

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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
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
General Office Building	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Parking Lot	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
NaturalGas Unmitigated	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	676.11	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
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		**7.2900e-003**	**0.0663**	**0.0557**	**4.0000e-004**		**5.0400e-003**	**5.0400e-003**		**5.0400e-003**	**5.0400e-003**		**79.5423**	**79.5423**	**1.5200e-003**	**1.4600e-003**	**80.0150**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.67611	7.2900e-003	0.0663	0.0557	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		79.5423	79.5423	1.5200e-003	1.4600e-003	80.0150
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		**7.2900e-003**	**0.0663**	**0.0557**	**4.0000e-004**		**5.0400e-003**	**5.0400e-003**		**5.0400e-003**	**5.0400e-003**		**79.5423**	**79.5423**	**1.5200e-003**	**1.4600e-003**	**80.0150**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Unmitigated	0.6354	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474

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	0.0739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5595					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9600e-003	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Total	**0.6354**	**1.9000e-004**	**0.0209**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0444**	**0.0444**	**1.2000e-004**		**0.0474**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5595					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9600e-003	1.9000e-004	0.0209	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0444	0.0444	1.2000e-004		0.0474
Total	**0.6354**	**1.9000e-004**	**0.0209**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0444**	**0.0444**	**1.2000e-004**		**0.0474**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation